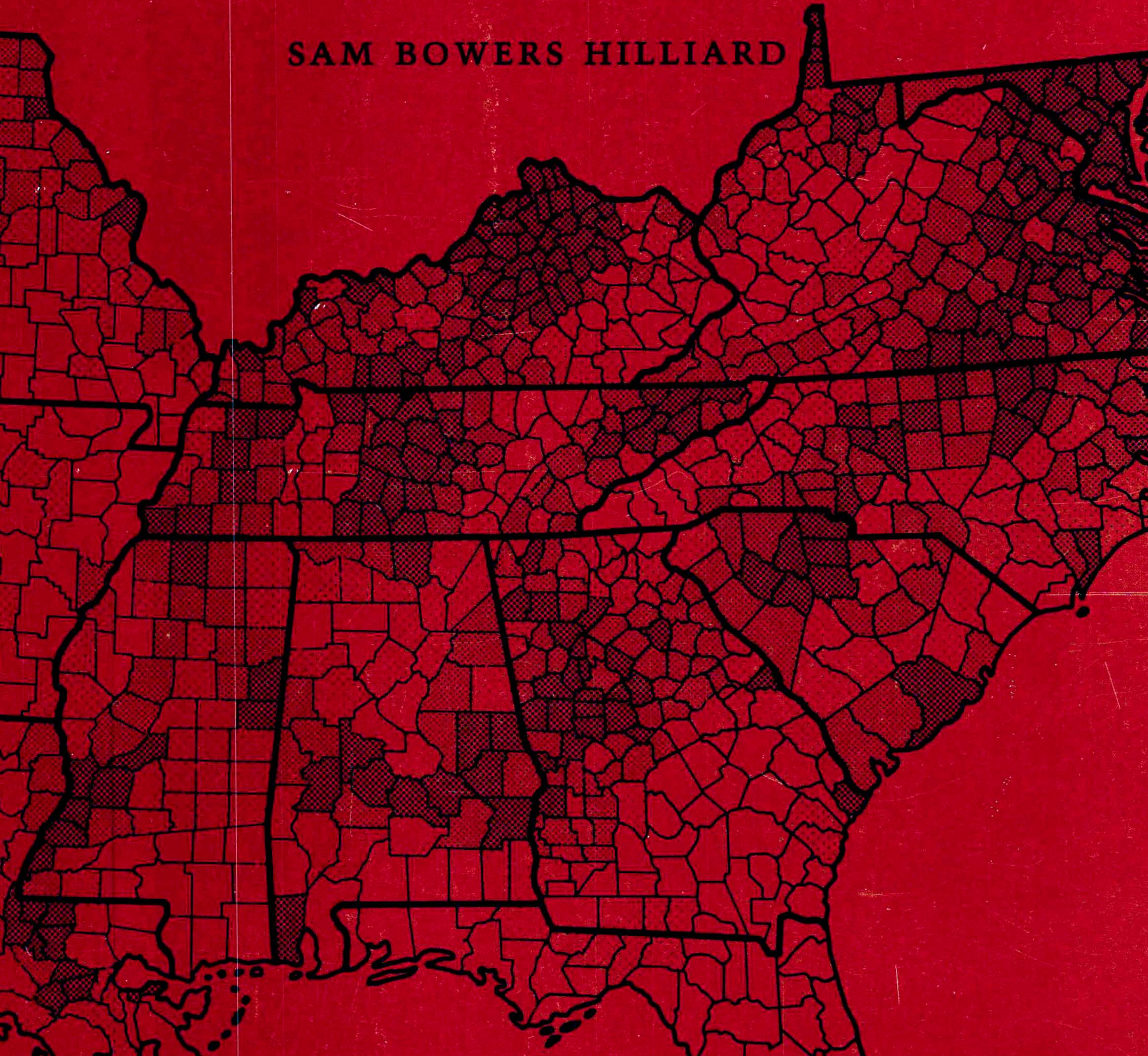
Atlas of Antebellum Southern Agriculture

SAM BOWERS HILLIARD



Atlas of Antebellum Southern Agriculture

SAM BOWERS HILLIARD

CARTOGRAPHY BY CLIFFORD P. DUPLECHIN
AND MARY LEE EGGART

LOUISIANA STATE UNIVERSITY PRESS
BATON ROUGE AND LONDON

Copyright © 1984 by Louisiana State University Press
All rights reserved
Manufactured in the United States of America
DESIGNER: Joanna Hill
TYPEFACE: Linotron Trump Medieval
TYPESETTER: G&S Typesetters
PRINTER AND BINDER: Thomson-Shore

LIBRARY OF CONGRESS CATALOGING IN PUBLICATION DATA

Hilliard, Sam Bowers.
Atlas of antebellum southern agriculture.

1. Agriculture—Southern States—Maps. 2. Southern States—Population—Maps. 3. Slavery in the United States—Southern States—Maps. I. Title.
G1281.J1H5 1984 912'.13381'0975 84-675089
ISBN 0-8071-1182-1
ISBN 0-8071-1202-X (pbk.)

Contents

Foreword / ix

Acknowledgments / xi

Introduction / 1
The Antebellum South as a Region / 1
Reading the Maps / 3
Sources / 4

I The Land / 6
MAP 1 Location Map / 7
MAP 2 Physiographic Features / 8
MAP 3 Physiographic Regions / 9
MAP 4 Topographic Regions / 11

II The Atmosphere / 13
MAP 5 Average Temperature for January / 14
MAP 6 Average Temperature for July / 14
MAP 7 Average Annual Number of Days with Maximum Temperature 90° F and Above / 15
MAP 8 Average Annual Number of Days with Minimum Temperature 32° F and Below / 16
MAP 9 Average Annual Number of Freeze-Free Days / 17
MAP 10 Average Annual Precipitation / 17

III Population / 19
MAP 11 Population 1790, 1800 / 19
MAP 12 Population Density, 1790, 1800 / 20
MAP 13 Population, 1810 / 20
MAP 14 Population Density, 1810 / 21
MAP 15 Population, 1820 / 22
MAP 16 Population Density, 1820 / 22
MAP 17 Population, 1830 / 23
MAP 18 Population Density, 1830 / 23
MAP 19 Population, 1840 / 24
MAP 20 Population Density, 1840 / 24
MAP 21 Population, 1850 / 25
MAP 22 Population Density, 1850 / 25
MAP 23 Population, 1860 / 26

MAP 24 Population Density, 1860 / 26
MAP 25 Slave Population, 1790, 1800 / 27
MAP 26 Slaves as a Percent of Total Population, 1790, 1800 / 28
MAP 27 Slave Population, 1810 / 29
MAP 28 Slaves as a Percent of Total Population, 1810 / 29
MAP 29 Slave Population, 1820 / 30
MAP 30 Slaves as a Percent of Total Population, 1820 / 30
MAP 31 Slave Population, 1830 / 31
MAP 32 Slaves as a Percent of Total Population, 1830 / 31
MAP 33 Slave Population, 1840 / 32
MAP 34 Slaves as a Percent of Total Population, 1840 / 32
MAP 35 Slave Population, 1850 / 33
MAP 36 Slaves as a Percent of Total Population, 1850 / 33
MAP 37 Slave Population, 1860 / 34
MAP 38 Slaves as a Percent of Total Population, 1860 / 34

IV The Land and Labor System / 35

MAP 39 Average Number of Slaves per Slaveholding, 1860 / 36
MAP 40 Percent of Slaves Held in Units of 9 or Fewer, 1860 / 36
MAP 41 Percent of Slaveholders Owning Fewer than 10 Slaves, 1860 / 37
MAP 42 Percent of Slaveholders Owning 50 Slaves or More, 1860 / 38
MAP 43 Farmland as a Percent of County Area, 1850 / 38
MAP 44 Farmland as a Percent of County Area, 1860 / 39
MAP 45 Improved Land as a Percent of All Farmland, 1850 / 39
MAP 46 Improved Land as a Percent of All Farmland, 1860 / 40
MAP 47 Improved Land as a Percent of County Area, 1850 / 40
MAP 48 Improved Land as a Percent of County Area, 1860 / 41
MAP 49 Average Farm Size, 1860 / 41
MAP 50 Average Number of Improved Acres per Farm, 1860 / 42
MAP 51 Farms Smaller than 50 Acres as a Percent of All Farms, 1860 / 42
MAP 52 Farms 500 Acres and Larger as a Percent of All Farms, 1860 / 43
MAP 53 Average Value of Farms, 1860 / 43
MAP 54 Value of Farmland, 1860 / 44

V Livestock / 45

MAP 55 Sheep, 1840 / 46
MAP 56 Cattle, 1840 / 46
MAP 57 Swine, 1840 / 47
MAP 58 Sheep, 1850 / 48
MAP 59 Cattle, 1850 / 48
MAP 60 Swine, 1850 / 49
MAP 61 Sheep, 1860 / 49
MAP 62 Cattle, 1860 / 50
MAP 63 Swine, 1860 / 50
MAP 64 Horses, 1850 / 51
MAP 65 Horses as a Percent of All Draft Animals, 1850 / 51
MAP 66 Horses, 1860 / 52
MAP 67 Horses as a Percent of All Draft Animals, 1860 / 52
MAP 68 Mules, 1850 / 53
MAP 69 Mules as a Percent of All Draft Animals, 1850 / 53
MAP 70 Mules, 1860 / 54
MAP 71 Mules as a Percent of All Draft Animals, 1860 / 54
MAP 72 Oxen, 1850 / 55
MAP 73 Oxen as a Percent of All Draft Animals, 1850 / 55
MAP 74 Oxen, 1860 / 56
MAP 75 Oxen as a Percent of All Draft Animals, 1860 / 56

VI Major Crops / 57

MAP 76 Wheat Production, 1840 / 58
MAP 77 Wheat Production per Capita, 1840 / 59
MAP 78 Wheat Production per Square Mile, 1840 / 59
MAP 79 Wheat Production, 1850 / 60
MAP 80 Wheat Production per Capita, 1850 / 60
MAP 81 Wheat Production per Square Mile, 1850 / 61
MAP 82 Wheat Production, 1860 / 61
MAP 83 Wheat Production per Capita, 1860 / 62
MAP 84 Wheat Production per Square Mile, 1860 / 62
MAP 85 Corn Production, 1840 / 63
MAP 86 Corn Production, per Capita, 1840 / 63
MAP 87 Corn Production per Square Mile, 1840 / 64
MAP 88 Corn Production, 1850 / 64
MAP 89 Corn Production per Capita, 1850 / 65
MAP 90 Corn Production per Square Mile, 1850 / 65
MAP 91 Corn Production, 1860 / 66
MAP 92 Corn Production per Capita, 1860 / 66
MAP 93 Corn Production per Square Mile, 1860 / 67
MAP 94 Cotton Production, 1820 / 67
MAP 95 Cotton Production, 1830 / 68
MAP 96 Cotton Production per Square Mile, 1830 / 68
MAP 97 Cotton Production, 1840 / 69
MAP 98 Cotton Production per Square Mile, 1840 / 69
MAP 99 Cotton Production, 1850 / 70
MAP 100 Cotton Production per Square Mile, 1850 / 70
MAP 101 Cotton Production, 1860 / 71
MAP 102 Cotton Production per Square Mile, 1860 / 71

VII Other Crops / 72

MAP 103 Pea and Bean Production, 1860 / 73
MAP 104 Oat Production, 1860 / 73
MAP 105 Rye Production, 1860 / 74
MAP 106 Sweet Potato Production, 1860 / 74
MAP 107 Irish Potato Production, 1860 / 75
MAP 108 Barley Production, 1860 / 75
MAP 109 Tobacco Production, 1860 / 76
MAP 110 Rice Production, 1860 / 76
MAP 111 Hemp and Sugar Production, 1860 / 77

Foreword

WILLIAM J. COOPER, JR.

Maps and the study of history are inseparable. Maps have always served two vital purposes for historians, as a major source for information as well as a key explanatory tool. Books that cover topics ranging from battles to urbanization, from political alignments to railroad building would tell their story less well without maps. Few history classrooms are without maps whether on the wall, the chalkboard, or the slide projector.

Traditionally history and maps have been blended in the historical atlas. In American history the modern ancestor of the historical atlas is Charles O. Paullin's *Atlas of the Historical Geography of the United States* (Washington, D.C., 1932), which maps everything from European exploration to the disposition of federal lands to congressional districts to cultural developments, such as the locations of colleges and universities. Paullin's atlas has assisted students of history for more than half a century, and frankly it has never been superseded. The *Atlas of American History* (New York, 1943) is also very useful. Originally published under the general editorship of James T. Adams, it was reissued in an enlarged edition by the same publishers in 1978 with Kenneth T. Jackson as editor. Although more current, it has neither the detail, the diversity, nor the technical sophistication of Paullin's great work.

In addition to such large, general atlases, scholars have produced more specialized volumes. A number of these more sharply focused books are truly superior historical atlases, which have been a boon to historians. For more than two decades *The West Point Atlas of American Wars* (New York, 1959), compiled in two volumes by Vincent J. Esposito, has been an invaluable aid to military historians in their study of strategy and tactics. More recently the late Lester J. Cappon provided immensely valuable assistance to scholars of the American Revolution with his *Atlas of Early American History: The Revolutionary Era, 1760–1790* (Princeton, 1976). A beautiful volume, the *Atlas of Early American History* provides cartographic representation of an impressive variety of topics including Indian towns, Methodist circuits, major roads, and population density.

Although generally designed for scholars, historical atlases can also interest a larger audience. Undoubtedly the most visible and impressive product aimed at general readers is the *American Heritage Atlas of American History* (New York, 1966). Profusely illustrated, this sumptuous book covers the entire sweep of American history. Its maps clearly depict the course of national history from the locations of pre-discovery Indian tribes to the air routes of commercial jetliners. This atlas also includes superb pictorial maps of Civil War battles and a magnificent portfolio of nineteenth-century prints of American cities.

In the history of historical atlases there has never been one devoted to the antebellum South. This absence has certainly not resulted from a dearth of important material that could be profitably presented with maps for the benefit of historians. Certainly during the past twenty-five years historians have revolutionized the study of the antebellum South, including many topics particularly adapted to cartographic presentation. None of these subjects has been treated with more thoroughness and imagination than slavery and agriculture. These two utterly critical topics, inextricably connected, offer many exciting possibilities for research. From them avenues lead into every corner of antebellum southern history.

This atlas presents a visual study over time that points up many of these possibilities. With it historians have for the first time in one place maps that both underscore and challenge many of the generalizations that currently dominate debates among historians of the South. It comprises a bountiful source for scholars working with slavery, agriculture, demography, and southern society in general. Simultaneously the atlas is a splendid aid for those of us who teach southern history.

Historians are fortunate in the maker of *Atlas of Antebellum Southern Agriculture.* Although trained as a cultural geographer and happily located in a department of geography, Sam B. Hilliard personifies an almost ideal scholarly marriage between geography and history. Professor Hilliard has been well known to students of southern history since the publication in 1972 of his *Hog Meat and Hoecake: Food Supply in the Old South, 1840–1860,* which addressed the major question of food self-sufficiency. It is an essential book for anyone working in southern economic history. In the succeeding decade Professor Hilliard has continued his research on antebellum southern economic history with articles on such subjects as rice culture, interregional trade, and land survey systems. In *Atlas of Antebellum Southern Agriculture,* Sam Hilliard combines his extensive knowledge of southern history with his ability to use maps effectively. The result is a historical atlas that will have an immediate impact and a lasting influence.

Acknowledgments

Any writer who sets out to credit those who contributed to his work faces a difficult task, for so much of what one does stems from those informal, fleeting contacts of which no record remains. The coffee break, the weekend field trip, and the casual banter among friends have their effects, and I suspect that much of what we do is directed by such encounters.

The first glimmer of this work came through correspondence with the late James Bonner, who decried the lack of usable historical maps of southern agriculture. Further stimulation came from my colleagues at Louisiana State University, especially Milton B. Newton, Jr., Paul Paskoff, and William Cooper, Jr., who urged me to undertake the task. Encouragement also came from afar, especially from Merle Prunty, Jr., Morton Rothstein, Gerald Holder, Louis De Vorsey, Jr., Campbell Pennington, Fraser Hart, Charles Aiken, and Peirce Lewis.

As work progressed I turned to others whose special expertise was needed at the conceptual stages. Philip B. Larimore, an experienced cartographer, guided me through the maze of technical choices that had to be made. His advice, a pleasant combination of gentle persuasion and biting sarcasm, has been invaluable. His staff, Clifford Duplechin and Mary Lee Eggart, was essential, for their knowledge of technical production and cartographic aesthetics kept my imagination within bounds. Robert Muller, Louisiana's state climatologist, was kind enough to provide advice and information. Throughout the entire project, I had the kind and gentle hand of Fred Kniffen on my shoulder, and he pored over the maps for hours pointing out places where special attention was needed.

A number of persons were involved in data manipulation. Cathy Duncan led me though the mysteries of computer programming, though I can claim to have learned but little in the process. Paul Paskoff, Lawrence Falkowski, and Mary Ellard Bergeron provided help from the College of Arts and Sciences Division of Research Services. Martha Mousel, Lisa Roberts, and Linda Pett helped in the preparation of the maps.

Special thanks go to the staff of the Department of Geography and Anthropology for clerical help and to the department for financial aid. Finally responsibility for the choice of material included and its accuracy rest, as always, with the author.

Atlas of Antebellum Southern Agriculture

Introduction

The Antebellum South as a Region

Scholars of American history seldom attempt an analysis of the nation without subdividing it into sections. No matter how brief the discussion or how general the statements, it seems necessary to recognize that some parts of the nation differ from others and that such differences must be accounted for. In so doing the scholars are resorting to the time-tested practice of regionalization. This intellectual exercise seems natural to us and emanates from very practical reasoning. For one thing, discussion or analysis of any area of substantial size is made easier through the simple act of studying it piece by piece. But there is more. Regionalization is a process that divides on the basis of certain criteria; that is, the resulting pieces are so chosen because they are unique, relatively homogeneous units that can be distinguished from other such units. The delimitation of these regions varies depending on the purposes involved, but the practice appears irresistible. Thus, we see treatments of New England, the Midwest, or the Great Plains with the implicit assumption that such units represent areas that exhibit enough distinctiveness to merit study and enough homogeneity to be treated as a unit.

One area that emerges from any such division of the United States is the South. Recognized as a section that differed from other parts of the country even during the colonial period, its perceived uniqueness grew until, by the antebellum period, "The South" could rightly be regarded as the ultimate American region. Finally, the process of regionalization reached fullest expression through the formation of the Confederacy whereby a *de facto* political region embracing the South was formed.

To argue that the South is a region seems unnecessary, for the evidence is overwhelming that it is widely regarded as a special part of the country. No other part of the country has been talked about and written about so much, and no other part of the country is so clearly established in American minds (both North and South) as being a separate unit. We might argue about the details of its boundaries and perhaps the criteria used to define it, but one fact remains: most Americans would agree that somewhere "down there" is a place markedly different from the rest of the country, and that it deserves special attention.

Just when this regional distinctiveness emerged is not clearly established, nor can we easily define those characteristics that are peculiarly southern. Early in the colonial period the region was recognized as the nation's producer of tropical crops, and by the beginning of the national period, its major cash crops—cotton, rice, tobacco, indigo, and sugarcane—were well established. But the South's distinctiveness lay not only in what its fields produced but also in how production was carried out. The entire agricultural system, from land acquisition to labor supply, differed from that of the remainder of the nation. The most outstanding trait was a strong dependence upon slaves for labor, but also notable was the tendency toward large landholdings. Although neither was universal throughout the area, both were common enough for the "slave-plantation" label to become widely accepted. Furthermore, the South lagged far behind the North and West in the development of both manufacturing and cities, resulting in its being regarded as an agricultural rather than industrial region.

The distinctiveness of southern agriculture may be shown by noting the region's share of a number of agricultural items (Figure 1). With some 37 percent of the nation's farms, 38 percent of its people, and 45 percent of its improved land, the area produced the bulk of the country's rice, cotton, cane sugar, tobacco, peas and beans, and sweet potatoes. It also contained almost all the slaves as well as 83 percent of the landholdings of five hundred acres or larger. Nearly 90 percent of the mules, over 60 percent of the swine, and roughly half the cattle were in the South. It could boast its share of both corn and horses, but a number of crops and animals that were common outside the area, such as Irish potatoes, sheep, and dairy products, showed up poorly in the South.

Despite the near-universal recognition of the South as a region, it was *by no means* homogeneous throughout. It is simply too large and its environmental resources too diverse to be treated as a uniform entity. Consequently, its agriculture exhibited a striking variety. For one thing, the region's premier cash crop, cotton, was nowhere near universally grown; and three other crops, rice, sugarcane, and tobacco, were so limited in their distributions that one or two states produced the bulk of the entire nation's output of each. In fact, the distributions of a number of the items usually identified as "southern" varied so markedly from place to place within the South that they help form mini-regions within the larger entity. Lower Louisiana chose sugarcane as a cash crop, while coastal South Carolina and Georgia concentrated on rice. Cotton was the most widespread of the cash crops, being grown in a broad swath from North Carolina to Texas, with concentrations occurring in the Black Belt and Tennessee River valley of Alabama and the alluvial counties bordering the Mississippi River. Virginia was noted for tobacco growing, but the plant required such small acreages that, judging by land use, the state could rightfully be regarded as a "general farming" area. Western Virginia, Kentucky, and Tennessee were, in many ways, more akin to the Old Northwest in their devotion to cattle, hogs, corn, and small grains. Missouri was, of course, a border state sharing in the agricultural area that would later be dubbed the Corn Belt.

Agricultural variety was so great in the South that we could perhaps discern many subregions within it, but little purpose would be served. This work addresses itself to the obvious task of showing agricultural variation within an area long recognized as a distinct region. Its purpose is not to challenge the concept of the South as a region but rather to show that a cultural-political region may exhibit striking agricultural variation within its own boundaries. The primary emphasis is upon agriculture, but other items (such as population and slaves) are included simply because they impinge directly upon agriculture.

The area covered is that area usually identified as the South with the border states of Missouri, Kentucky, and Maryland included. West Texas

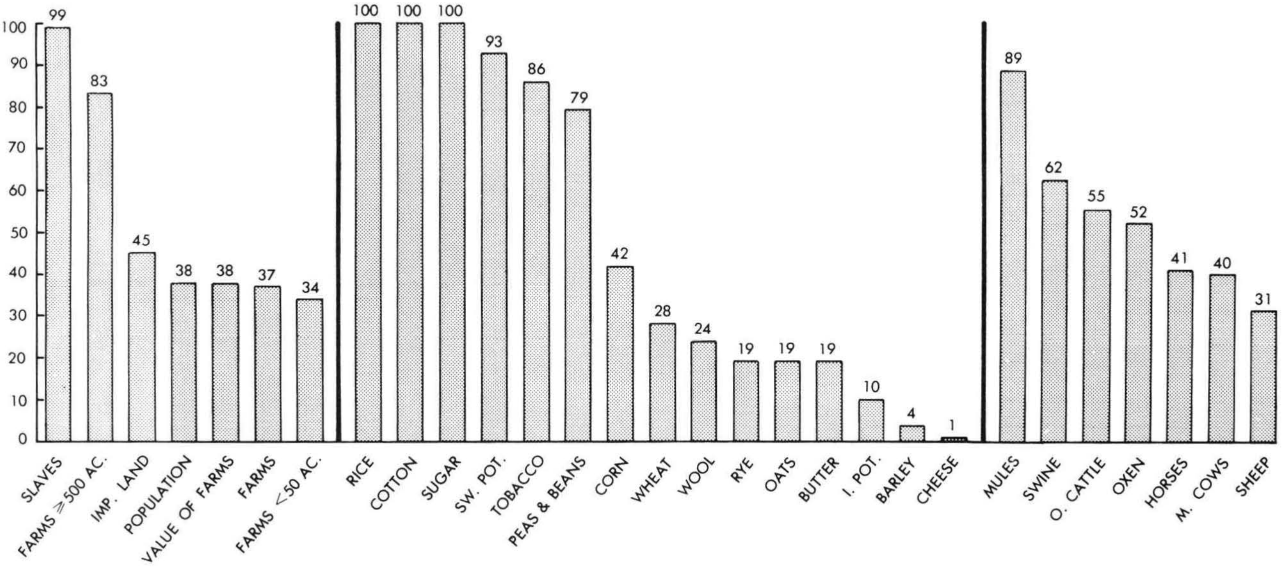


FIGURE 1. Southern share of selected items, expressed as a percent of the nation's total, 1860

and southern Florida have been omitted, because neither was well settled at the time and their omission permitted map reproduction at a slightly larger scale. Altogether, the area covered here represents approximately 1/3 million square miles or about 40 percent of the country that was organized into states in 1860.

Reading the Maps

The map is a versatile tool. It is almost essential for conveying impressions of places that lie beyond our vision, and one can scarcely imagine serious discussion of any large area without its use. All maps are abstracts of reality. They depict all or a portion of the earth, embellished with symbols representing those objects deemed important enough in any particular instance to display. Some are extremely detailed, designed to convey as much information as possible; others are selective, emphasizing certain things by displaying them prominently while deliberately omitting others. Such maps are designed as *presentation* maps on which roads, towns, rivers, and mountains are shown in their proper positions relative to each other. We employ such maps to point out places of interest, to show where we have been, or simply to find our way; without them we would, quite literally, be lost. However, the field of cartography is not limited to showing graphic representations of reality; it offers other types of maps whose versatility permits display of a wide variety of quantitative information, not simply numbers of people or animals, or amounts of crops, but of abstractions, such as ratios, densities, and proportions. Useful for mapping statistical data, their utility is particularly apparent when it becomes necessary to compare two or more distributions.

This work contains a variety of maps chosen for their merit in depicting distributions that are important in understanding agriculture in the region. Aside from the introductory environmental maps and the location map, most depict statistical information as reported by county units. The same information could have been presented in tabular form, but the map offers the advantage of identifying the unit datum with a specific geographical location. The result is a statistical map that shows both "where" and "how much" in a single graphic. Such information is crucial to any areal analysis in that the viewer can see production figures as they vary from place to place and easily identify areas of high, low, or intermediate values. By combining a number of such maps within a single volume (all mapped at the same scale), any number of visual comparisons may be made.

Owing to the nature of the data and the maps used, it was necessary to make certain judgments concerning their organization and presentation, and knowledge of how and why these decisions were made is a prerequisite to a full understanding of the information presented. It is important to point out what the maps show, but equally important to stress what they do not show. This can be accomplished best through a discussion of the types of maps chosen and the manner in which they were prepared.

THE DOT MAP The most straightforward technique for mapping simple geographical distributions is the dot map. It employs a uniform symbol, the dot, which is a discrete unit that represents a given number or amount of a specific group or commodity. The dot map has the advantage of depicting both quantity and distribution, but also, by implication, density. It is used in this work to map population, animal numbers, and crop productions.

The choice of dot size (diameter) is an aesthetic one, designed to produce a map that shows sufficient detail without appearing either barren or cluttered. Of greater importance is the selection of dot value (the quantity represented by each dot). The value of each dot must be small enough to permit counties with small numbers or production to be represented yet not obscure those that contain high values by having dots piled upon one another. Conversely, selection of a dot value too high results in a sparse map with so few dots that counties with small values simply do not appear to have any value. Thus, the choice of dot value is a compromise based on the range of values to be mapped. The greater the range in values, the more difficult the decision as to dot value. Obviously, dot values vary from one commodity to another, but when an item is presented in a chronological series, the same dot value is used to make comparisons possible.

THE CHOROPLETH MAP Since the data used in this work are reported *by county* (or in the case of

Louisiana, *parish*), the basic unit for mapping is the county. The number and size of counties varied during the period covered, but by 1860 there were over 1,100 counties in the fourteen states within the South. Their use as geographical reporting units offers considerable detail over that possible by the use of states, since variations may be shown that occurred over distances as short as twenty or thirty miles. The choropleth map (from Greek *choros*, place, and *plethos*, magnitude) is a simple way of showing quantitative values identified with specific counties. It is accurate in that it represents the datum value for the unit, but it does not show variation within that unit; *e.g.*, a uniform distribution within the unit is assumed.

Specific numbers (people, animals, or bushels), are not normally presented choroplethically, for the size of the county may determine amount (large counties usually produce more than small ones), thus giving a distorted impression. The choropleth map is best used to display data derived by arithmetic calculation, such as ratios. Thus, when we map "slaves as a percent of total population," county size is irrelevant. Furthermore, choropleth maps of ratios tell nothing about numbers. For example, two counties may show identical slave percentages, yet one may have ten times the population of the other. Of particular importance in creating a choropleth map is the choice of class intervals. A variety of methods was used in choosing intervals for the maps in this work, depending upon the nature of the data, but whenever a chronological series of maps appears, the same intervals were used to facilitate comparisons.

THE ISORITHMIC MAP The isorithmic (from Greek, *isos*, equal, and *arithmos*, number) map is similar to the choropleth map in that it shows magnitude identified with a specific areal unit, but instead of showing values changing abruptly at the county boundary, isolines representing a constant value are used. Ideally, an isoline connects points of equal value, and in the case of the climate maps this ideal is closely approximated, for rainfall and temperature are assumed to vary continuously; but in mapping population density or cotton production per square mile a number of assumptions had to be made. Each datum was calculated on a county unit basis, and then the value was assigned to a point at the center of the county. These values were plotted first on a rough draft, and isolines were drawn superimposed on the rough draft. Except for the climate maps, all isorithmic maps could have been constructed either isorithmically or choroplethically, but in this work the isorithmic maps were chosen to map only those data calculated on an areal (square mile) basis while choropleth maps were used for percentage and per capita maps. The choice was an arbitrary one, for each type has both merits and faults. The isorithmic map gives a good visual impression of surface trends, but sometimes the dictates of its construction necessitate questionable assumptions about the data. It is especially effective for depicting statistical surfaces that trend smoothly from lows to highs (such as temperature). On the other hand, when extremely low units (counties) are interspersed among units with high values, the isolines must be drawn so close together that the choroplethic method may be more suitable.

The maps are grouped into six units. Each unit contains several maps that are related in theme. All are mapped on the same projection at the same scale to permit comparisons. Where feasible, related maps are placed on the same page or facing pages. This is particularly useful when presenting the same information mapped in two ways, such as the dot map of mules and the choropleth map showing mules in relation to all draft animals.

In order to gain full use of this work, the reader is urged to make as many visual comparisons as possible. By doing so he maximizes the interpretive value of the maps, and may "see" correlations that had hitherto gone unnoticed. It is hoped that these maps will not only inform but will also stimulate the reader to use the technique for further study.

Sources

The primary data source for this work is the *United States Census*, taken each decade since 1790. Population data are available for each of the eight census years (1790–1860). Agricultural data were reported first in 1840, but later censuses provided much greater detail. Where crop production is reported for a given census year (*e.g.*, 1850), the figures refer to the crop grown the previous year

(1849). Maps of cotton production for the years prior to 1840 were taken from the *Atlas of American Agriculture*, published by the United States Department of Agriculture in 1918. Data shown for the year 1820 represent the following year's crop, and data for 1830 are, in fact, an average of the years 1826 and 1833.

The maps of temperature, precipitation, and growing season are redrafted from maps in the *Climatic Atlas of the United States*, published by the United States Department of Commerce in 1968.

Base maps were compiled from several sources. Those for the years 1840, 1850, and 1860 were obtained from the Cartographic Branch of the Census Bureau, and the maps for 1790 to 1830 were compiled from a variety of maps located in state archives. Most of the information on boundaries in the states of Louisiana, Mississippi, Alabama, Georgia, and South Carolina was compiled by the author, but in creating outline maps for the counties of upper South states, great reliance was placed on maps done by John Florin and Stephen Birdsall of the University of North Carolina.

The writer knows of no source that gives data for county areas for each census year. In cases where no significant changes were made in county boundaries, the area was assumed to be the same as today. In others, the writer calculated county area using both the dot grid and planimeter methods. Given the scale of the base maps from which the calculations were made, their accuracy is open to question, as is the location of county boundaries. However, considering the scale at which the maps are published, the level of accuracy is acceptable.

I

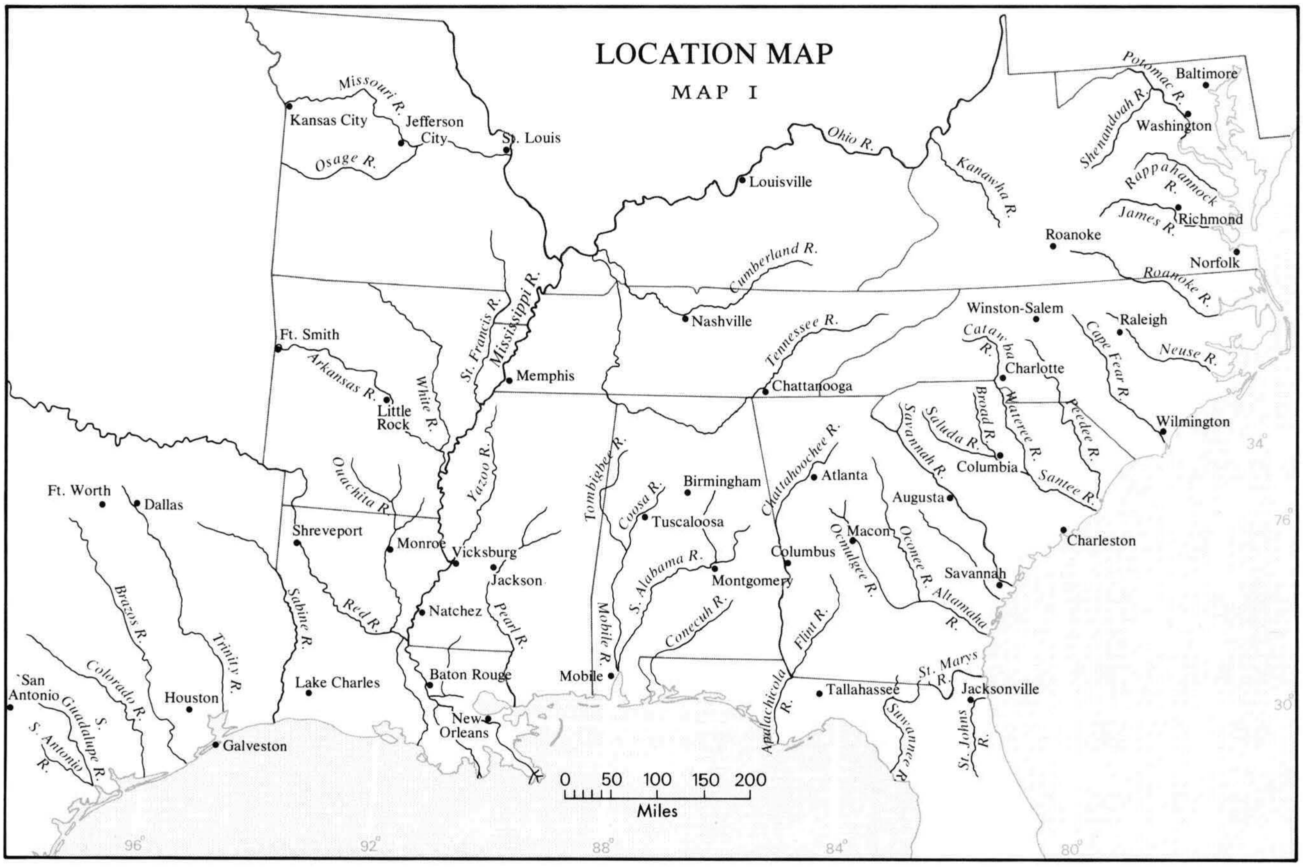
The Land

It is perhaps axiomatic that human activity bears some relationship to the natural environment. The mere fact of a person's existence on the earth carries with it an assumption of place. Furthermore, location of that place determines certain characteristics ordained by natural forces. Thus, any place has an environment, and that environment varies according to latitude, position on a continent, and its own physical dimensions. Such an environment may be subdivided into many elements—rainfall, temperature, soil, relief—but most agree that the combination of these things make up the "geography" of a place.

Few would disagree that the geography of a place is in some way intertwined with human activity, but the relationship is a complex one, the exact details of which are imperfectly understood. Half a century ago it was fashionable to speak of the environment "determining" human activities; today it is equally fashionable to point to technology that "frees man from his environment." However interesting such speculation might seem, specific, definitive statements are difficult, and when we consider the size and diversity of a region the size of the South, they become too generalized for use. Southern agriculture, as it existed in the antebellum years, was extremely varied, and the variability resulted from a combination of several factors: climate, soil, drainage, terrain, economic opportunity, historical precedent, stage of development, and cultural predilection. This section deals with the first four factors, for they provided the medium upon which agriculture developed. It follows logical procedure to examine the several aspects of the natural environment with an eye toward subdividing the diverse South into smaller, more homogeneous units.

The face of the South is a wrinkled one, reflecting the complex of natural forces that have been at work for eons. Its size prevents us from gaining a firsthand comprehensive view of all of it; thus we must rely on satellite pictures or our own artistic imaginations to appreciate the region's diversity. The three maps in this section attempt to illustrate the physical nature of the region by using different methods of presentation. Map 2 is simply an artist's concept of landform features exaggerated to emphasize their presence. It is useful because it is both pictorial and cartographic, designed to illustrate the "lay of the land" in relation to state boundaries and waterways. It also suggests a relationship between surface configuration and the underlying geologic structure. Map 3 is less revealing in surface detail, being a subdivision (or taxonomy) of the area into physiographic regions based largely on geologic structure, whose names—Piedmont, Coastal Plain, Blue Ridge—are widely familiar. Although such names do not necessarily convey "description," they serve to distinguish areas whose topography and geologic history are distinct enough to warrant identification and brief discussion.

THE COASTAL PLAIN The dominant physiographic unit in the South, that is, the one that accounted for the bulk of antebellum southern cash crops, is the Coastal Plain. In a grand arc that sweeps from New Jersey to Texas, it varies in width reaching over five hundred miles into the continent along the Mississippi River valley. Low elevations and low relief are its most obvious characteristics; with few exceptions it lies below five hundred feet above sea level, and more than half is below one hundred feet. As might be expected, much of the area near the coast is poorly drained, resulting in swamps and marshes. The geologic formations that make up the Coastal Plain are unconsolidated sedimentary deposits of

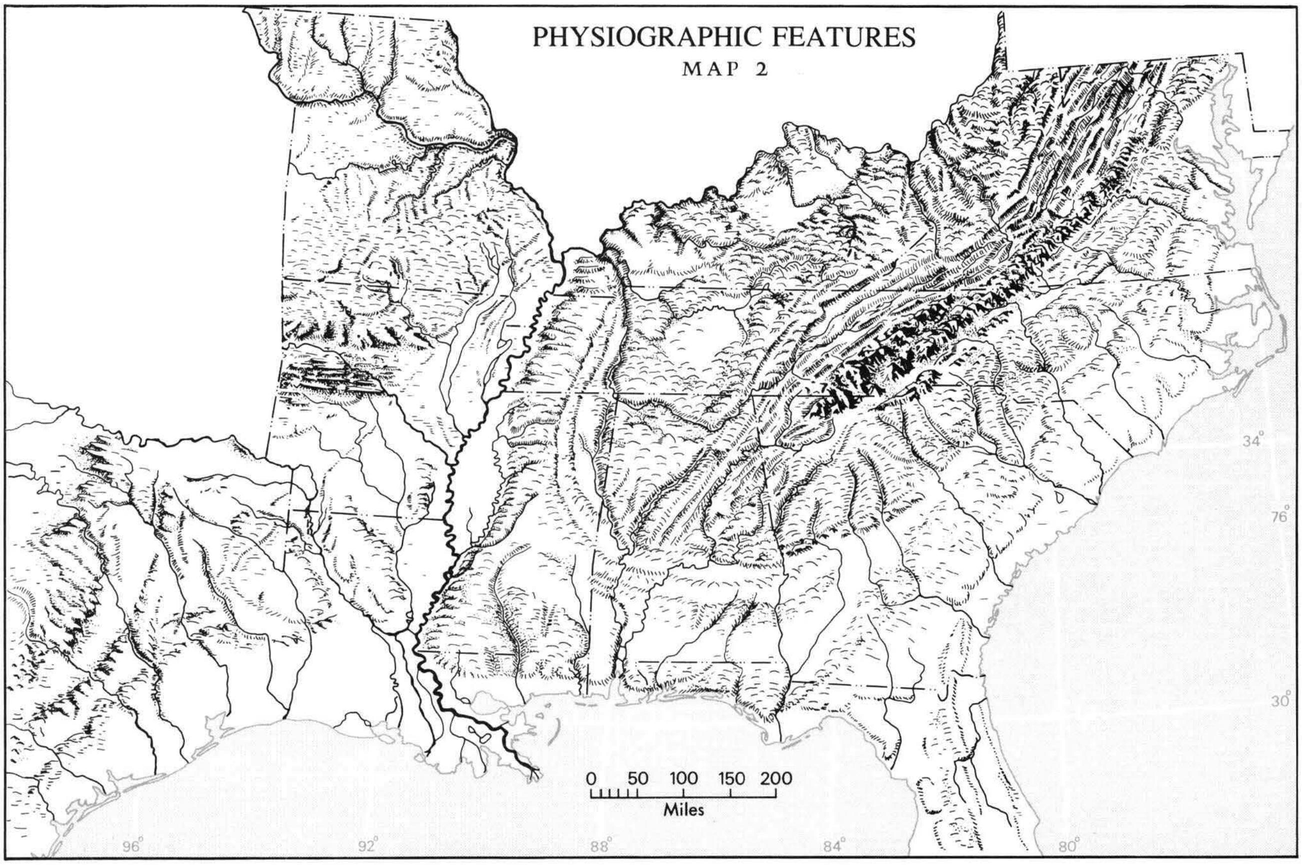


relatively recent age (Cretaceous or younger). The various formations dip gently toward the sea with the more resistant materials forming low hills or *cuestas* (in Louisiana the English word *wold* is used) and shallow valleys on their inner margins, features that trend roughly parallel to the shoreline (see Map 2). Along the Atlantic coast, the Coastal Plain becomes narrower to the north, primarily because it dips toward the northeast, resulting in the area from southern Virginia to Delaware being inundated by the sea to form the Chesapeake and Delaware bays. To the south and along the gulf coast the Coastal Plain is slightly more elevated, resulting in a coastline of lagoons, sandy beaches, and offshore islands.

THE ALLUVIAL LOWLAND Slicing the gulf portion of the Coastal Plain in half is a physical feature whose nature and origin are such that it deserves special attention. Topographically similar to the outer Coastal Plain, the Alluvial Lowland is made up of very recent materials deposited by the waters of the Mississippi and its tributaries and distributaries. In fact, its material overlays that of the Coastal Plain. Low lying, poorly drained, and forested with a dense growth of cypress, tupelo, and other water-tolerant trees, it was difficult to exploit during the early years, but its inherent soil fertility and riverine location resulted in its becoming the premier agricultural area of the South, especially during the last half of the nineteenth century.

Inland from the Coastal Plain and east of the Mississippi River are highlands that usually are grouped under the name "Appalachians." The term is widely used to refer to the broad belt of uplands that stretches from Nova Scotia to northern Alabama. Its size and variability beg for subdivision, and in this work four units are recognized, the Piedmont, Blue Ridge, Ridge and Valley, and Appalachian Plateaus.

THE PIEDMONT The Piedmont extends roughly nine hundred miles from New York to Alabama, with a varying width up to 125 miles. Although geologically related to the Appalachians, the Piedmont is much lower in elevation (below 1,000 feet), and its surface is much less rugged; in some places it resembles that of the inner Coastal Plain. The boundary between the Piedmont and Coastal Plain, the Fall Line, is marked by breaks in stream gradient and by rapids or shoals. After settlement,

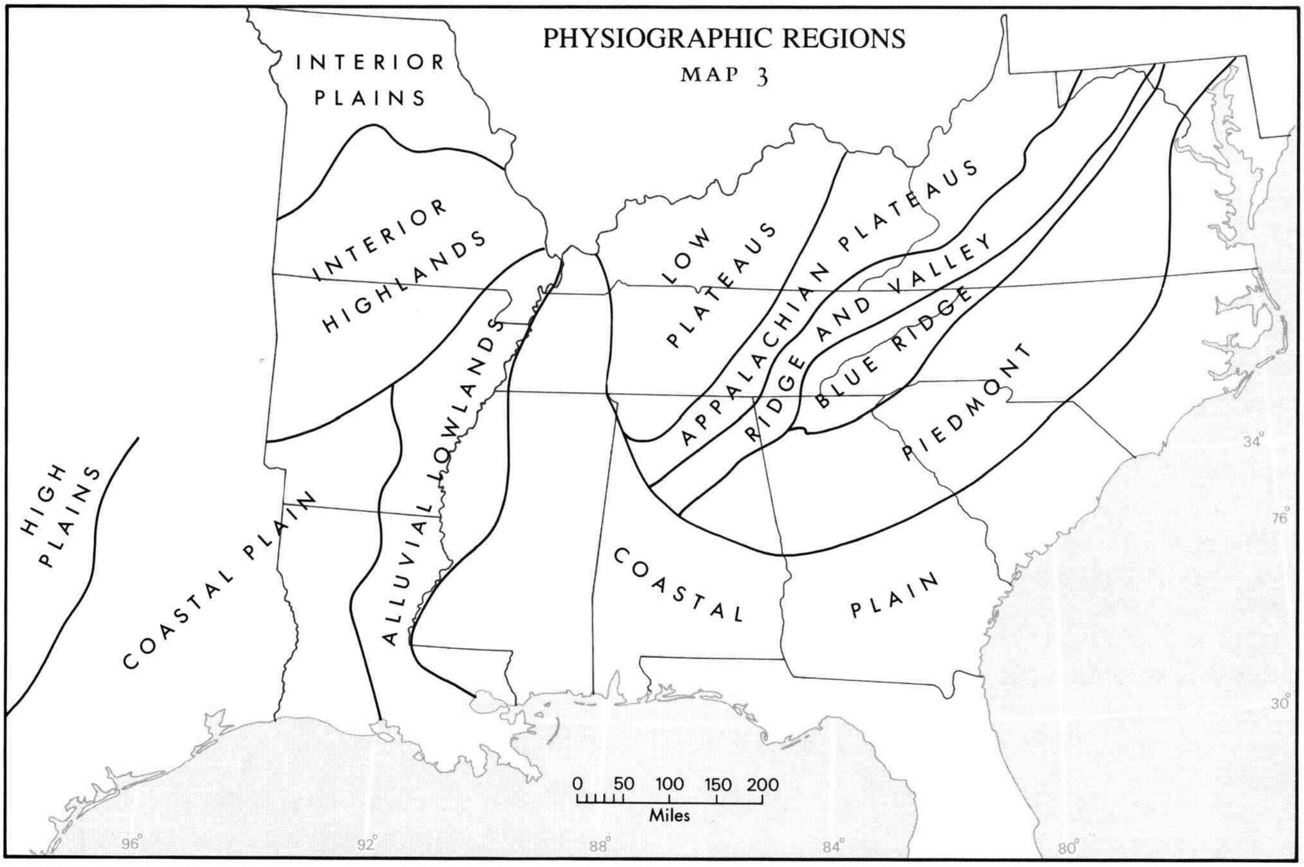


a number of towns grew up along the Fall Line—Baltimore, Washington, Richmond, Raleigh, Columbia, Augusta, Macon, and Columbus—partly because the Fall Line was often the head of navigation and partly because the Fall Line shoals made river crossing easier. Another reason often cited is the water power potential of streams crossing the Fall Line, but most Fall Line towns predated the large-scale use of water for industrial power.

THE BLUE RIDGE The lofty Blue Ridge forms the backbone of the Appalachians. The boundary between the Piedmont and the Blue Ridge is sharp, and in a distance of only a dozen or so miles the surface may rise 2,000 or 3,000 feet. The Blue Ridge is lowest and narrowest in the north and highest and widest in the south, rising to 6,684 feet at Mount Mitchell in North Carolina. Here may be found steep slopes and narrow valleys. Of all physiographic units discussed, it has the poorest resources for agriculture yet is scenically grandest.

THE RIDGE AND VALLEY Immediately west of the Blue Ridge the surface drops to form an area of lower elevation where relatively flat, fertile valleys are interspersed among rather sharp linear ridges created by differential erosion of the folded formations of the underlying bedrock. The entire province trends roughly northeast to southwest and the connecting valleys have served historically to funnel the movement of people and goods along its axis. Along the northern section, from Pennsylvania to near Roanoke, the province is dominated by a single broad valley, but farther south the valley splits into a jumble of small valleys and linear hills. From eastern Tennessee southwestward the valleys become lower in elevation and broader in width until in Alabama the province's surface becomes a series of low ridges and valleys that eventually becomes scarcely distinguishable from adjacent areas.

THE APPALACHIAN PLATEAUS Although the Ridge and Valley owes its peculiar linearity to underlying structure, the plateau to the northwest has no such geologic control. In this province, underlain by sedimentary rock formations that lie almost horizontally, erosion has created a vast hill land with narrow, winding valleys and uplands



mantled with thin, poor soil. The area offered poor resources for antebellum agriculturists, but this deficiency has since been offset by its rich mineral deposits. Its utility for agriculture increases toward the west.

LOW PLATEAUS Somewhat lower in elevation and with a surface considerably smoother than that of the plateau area to the southeast, this region offered better resources for agriculture. Consequently, it attracted settlement early and became a relatively productive area. Its most notable features are the Bluegrass and Nashville basins, whose soils derive from limestone, making the two basins the most productive parts of the area.

INTERIOR HIGHLANDS The states of Missouri and Arkansas contain an area that resembles the Appalachians in many respects. It contains folded ridges and valleys, comparable to the Appalachian Ridge and Valley, and to the north the Ozark Plateau is strikingly similar to plateaus in Kentucky and Tennessee. The area is also similar to the Appalachians in that its agricultural resources vary markedly. Rich valleys in the south give way to barren uplands to the north, making it one of the least productive regions in the area.

INTERIOR PLAINS The state of Missouri was considered a border state because of its culture, history, and politics, but the same could be said for its physiography. The southern half of the state lies in the region discussed above, but north of the Missouri River surface has been subdued by glaciation, and it is properly identified as a part of the glacial plain known as the Midwest.

HIGH PLAINS Westward from the Coastal Plain in Texas lies a southern extension of the Great Plains. Geologically similar to the higher plains of northern Missouri, they are distinguished from the Coastal Plain in Texas by geologic age, topography, and elevation. The eastern border is marked by the Balcones Escarpment that trends south from the Red River to pass immediately west of Austin and San Antonio. Many regard the Balcones Escarpment as a natural boundary between the South and the West.

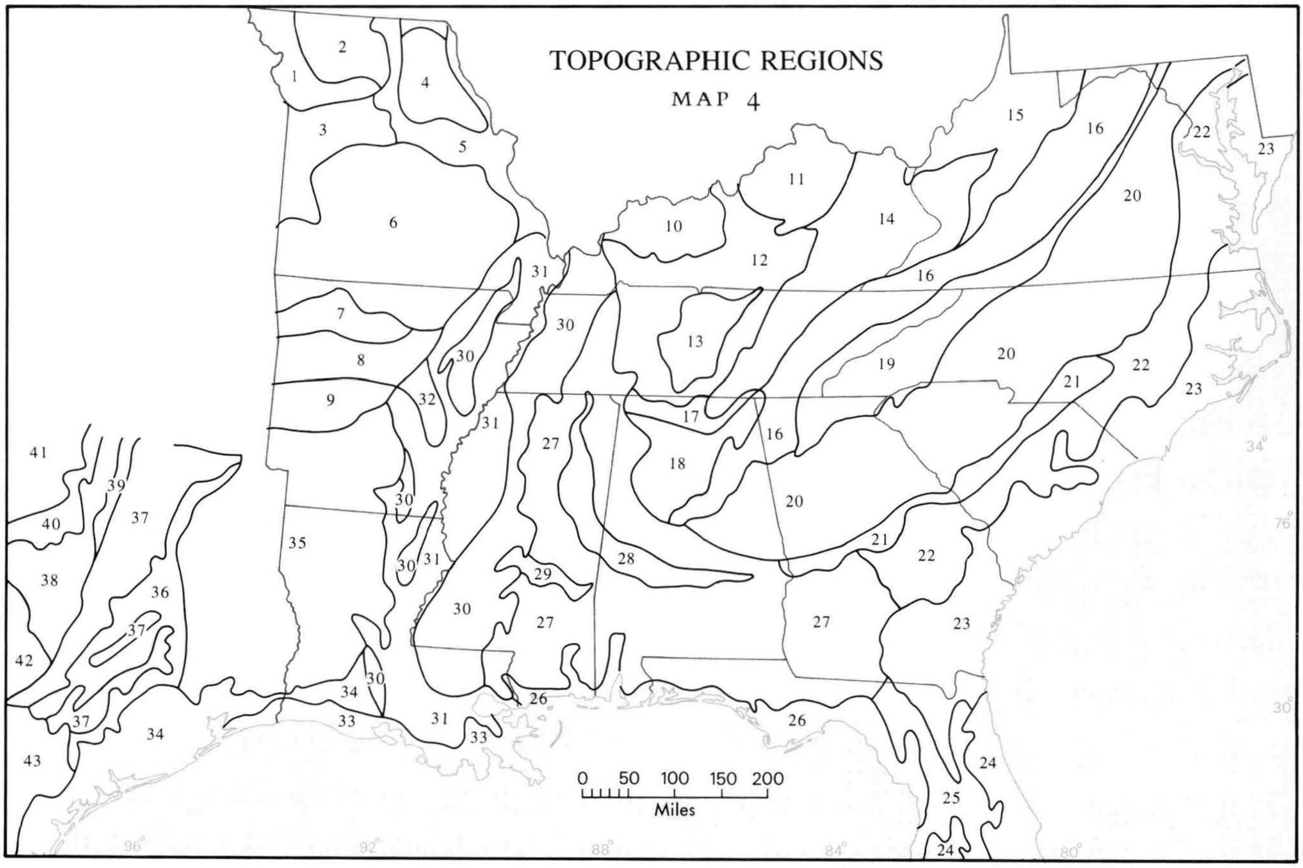
Topographic Regions

The preceding discussion deals with the South's physiographic regions, large areas that reflect underlying structure. But the antebellum farmer knew little of such matters. His interest lay in what the land could produce, and this was determined through time, partly by intuition and partly by trial and error. He knew that oak and hickory land was usually better than pine land and that bottomlands were superior to uplands, though the former usually were harder to clear. In general, the frontier southerner sought well-drained land that supported a rich flora, and by the third or fourth decade of the nineteenth century the outlines of the better southern land was reflected by the maps of population. This is not to say that soil quality was indicated precisely by population density, for many factors were at work (proximity to settled areas, locational inertia, and historical accident), but there came to be a discernible correlation between numbers of people and high-quality land.

Map 4 subdivides the South into a number of areas, labeled topographic regions, that provide a more detailed picture of land quality than any of the previous maps. Redrafted from a map in USDA Agriculture Handbook 296, Map 4 delimits areas within which surface configuration, soils, drainage, and geology combine to provide a medium for agricultural production. Obviously, the map bears a resemblance to the patterns on Maps 2 and 3, but the divisions are smaller and specific place identification is included. A total of forty-three subdivisions are recognized, each of which offered certain conditions for farming. Each is listed with a brief sketch of its potential. One must realize, of course, that significant variation in resources existed even within these areas. Further subdivision could be made—even to the level of the landholding itself—but the gain in detailed knowledge would be lost in the volume generated by such an enterprise. Therefore, the reader must keep in mind that the descriptions presented here are generalizations about areas that are relatively uniform but not perfectly homogeneous.

MAP 4 Topographic Regions

1. DEEP LOESS HILLS Small area of rolling hills near the Missouri River with soils developed on glacial till or windblown silt called loess. Generally productive.
2. HEAVY TILL PLAIN Nearly flat uplands with a few small, steep-sided valleys. Soils developed on glacial till with thin loess. Natural vegetation was tall grass prairie. Generally productive except where poorly drained.
3. CHEROKEE PRAIRIES Rolling plains dissected by stream valleys. Underlain by sandstone, shale, and limestone. Generally less fertile than soils of northern Missouri.
4. CENTRAL CLAYPAN Relatively flat area of claypan soils. Moderately fertile but sometimes poorly drained.
5. MISSISSIPPI VALLEY WOODED SLOPES Hilly ridgetops bordering stream valleys, separated by steep slopes. The best land lies in river bottoms.
6. OZARK HIGHLAND Large hilly area formed by deeply dissected sandstone and shale plateau. Shallow, stony, infertile soils were unattractive to settlers.
7. BOSTON MOUNTAINS Narrow ridge tops, steep slopes, and narrow valleys make this area one of the poorest agricultural regions in the South.
8. ARKANSAS RIDGES AND VALLEYS A complex area of ridges and valleys, the latter being the only productive part of the area. Uplands are steep with thin, poor soils.
9. OUACHITA MOUNTAINS Generally unproductive area of mountain ridges. Agriculture important only in scattered local valleys.
10. SANDSTONE AND SHALE HILLS AND VALLEYS Extremely variable with valleys being relatively productive while hills are less so.
11. BLUEGRASS BASIN A central limestone rolling plain surrounded by shale and limestone hills. Very attractive to early settlers (late 1700s), it became the premier agricultural region of Kentucky.
12. HIGHLAND RIM AND PENNYROYAL A dissected limestone plateau of limited productivity. Conditions vary markedly within the area.
13. NASHVILLE BASIN Geologically related to the Bluegrass Basin, this area also attracted settlers very early for similar reasons. An island of agricultural productivity surrounded by marginal plateau lands.
14. CUMBERLAND PLATEAU This deeply dissected sandstone and shale plateau offered little to prospective farmers. Small valleys provided good soils, but such areas made up but a fraction of the total area.
15. ALLEGHENY PLATEAU Similar to #14 in its agricultural potential.
16. APPALACHIAN RIDGES AND VALLEYS Northeast-southwest trending topography consists of alternating ridges and valleys, the latter being much more attractive to farmers. Conditions vary markedly from place to place, but the valleys supported a relatively rich agriculture based on grains and livestock.
17. TENNESSEE VALLEY An extension of #16, this valley was settled relatively early and formed an important outlier of the Cotton Belt.
18. SAND MOUNTAIN Sandstone plateau of hill land that offered little attraction to settlers. Marginally productive.
19. BLUE RIDGE Rugged mountains with peaks that exceed 6,000 feet. Steep slopes and narrow valleys were relatively unattractive to farmers, making it an area only sparsely settled by the time of the Civil War.



TOPOGRAPHIC REGIONS

MAP 4

20. PIEDMONT Large, dissected plateau that has been eroded to form an area of rolling hills. Mantled with a growth of hardwoods and some pines, its red-yellow soils developed from deep weathering in granite and gneiss. Inherently rather fertile, the high clay content encouraged erosion.

21. FALL LINE HILLS A hilly area lying between the Atlantic Coastal Plain and the Piedmont, associated with the Fall Line. Extremely sandy soils offered small inducement to farmers, resulting in sparse settlement.

22. ATLANTIC COASTAL PLAIN Nearly horizontal sediments of recent material supported a growth of pine trees, but agricultural potential varied depending upon soil texture. Sandy soils tended to be droughty, but in favored locations many crops did quite well.

23. ATLANTIC COAST FLATWOODS Flat, coastal strip was seldom well enough drained for most crops. The notable exception was along the Carolina-Georgia coast where rice was grown on river floodplains in the tidal zone. Small acreages of cotton were grown on the sea islands.

24. FLORIDA FLATWOODS Similar to the Atlantic Coastal Plain fringe.

25. CENTRAL FLORIDA RIDGE Low-lying plain of sandy soils pockmarked with sinkholes because of underlying limestone. On better drained sites minor productions of cotton and cattle occurred, but such areas made up but a small part of the total area.

26. GULF COAST FLATWOODS Poorly drained strip along the coast was sparsely populated.

27. EAST GULF COASTAL PLAIN Similar to Atlantic Coastal Plain in both surface and land use. Better drained and more fertile soils produced well, but large areas were unsuited for intensive agriculture. Cattle grazing was practiced within the pine forests.

28. ALABAMA BLACK BELT The dark soils developed from the underlying chalk provided the medium for the premier cotton area of Alabama.

29. MISSISSIPPI BLACKLAND PRAIRIE A smaller version of the Black Belt.

30. MISSISSIPPI VALLEY SILTY UPLANDS The dissected uplands are mantled with loess. Much less fertile and more susceptible to erosion than either the Black Belt to the east or the alluvial valley to the west, it was much less attractive to agriculturists and shows up relatively poorly in crop production, though local conditions varied enough to encourage settlement on the better sites.

31. MISSISSIPPI ALLUVIAL VALLEY Large, poorly drained area of recent soils, it was prized by settlers. Cotton and sugarcane grew well where drainage permitted, but much of the area remained uncleared and undrained until the postwar period. The best drained lands were the natural levees that bordered the larger streams; thus early settlement was riverine.

32. EASTERN ARKANSAS PRAIRIE Nearly flat river terraces that lay a few feet above the alluvial lowland. Their slightly lower fertility was offset by their superior drainage.

33. GULF COAST MARSH Low-lying treeless land is mostly in marsh. The only lands suitable for crop agriculture are narrow levees that fringe the streams.

34. GULF COAST PRAIRIES Virtually flat plain somewhat higher than the Coast Marsh, covered by grass. Little used for crops during the antebellum period but extensively grazed by cattle.

35. WEST GULF COASTAL PLAIN Similar to other Coastal Plains in physical character, but less intensively used because of late settlement.

36. TEXAS CLAYPAN Similar to Coastal Plain in terrain, but land quality was such that agriculture was limited to grazing.

37. TEXAS BLACKLAND PRAIRIE Dark soils that supported crops well. Not densely populated during the antebellum period, but potentially rich.

38. GRAND PRAIRIE Similar to the Blackland Prairie in topography and soils, but sparsely populated. Most of the large inland cities of today are found in the prairie belts.

39. EASTERN CROSS TIMBERS Forested area that borders the Grand Prairie to the east. Generally poor conditions for crop agriculture.

40. WESTERN CROSS TIMBERS Similar to Eastern Cross Timbers.

41. ROLLING RED PRAIRIES Rolling hills that grade into high plains to the west. Sparsely populated during antebellum period, some grazing.

42. EDWARDS PLATEAU Rugged hill land of little agricultural importance.

43. RIO GRANDE PLAIN Nearly flat plain that slopes gently up from the coast. Lush grass made excellent grazing.

II

The Atmosphere

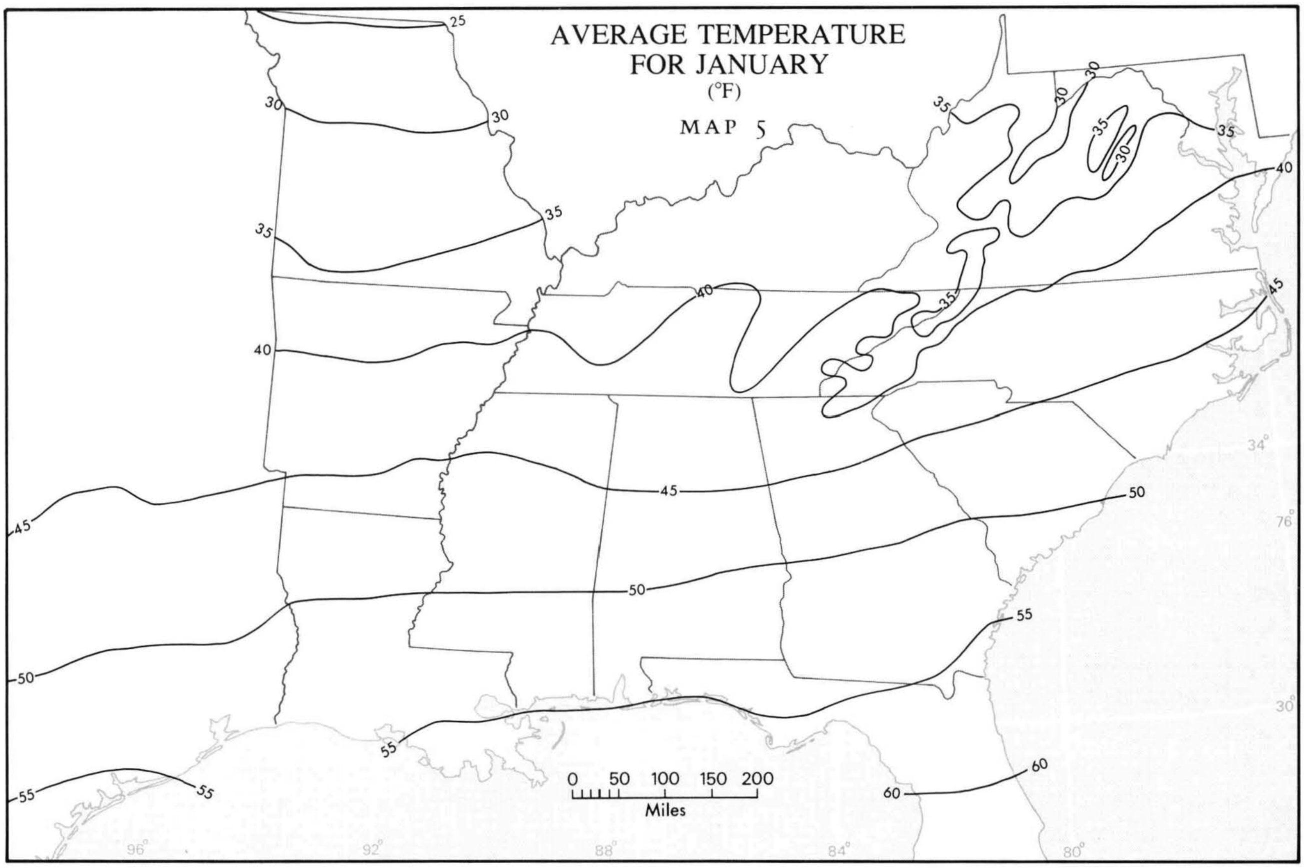
The South evokes many images, but none comes to mind more readily than its climate. Mild winters and sultry summers are characteristic of much of the area. The mild climate is responsible, to a great degree, for the presence of some southern crops, notably cotton and sugarcane, but enough variation exists within the area to affect significantly the production and distribution of a number of crops.

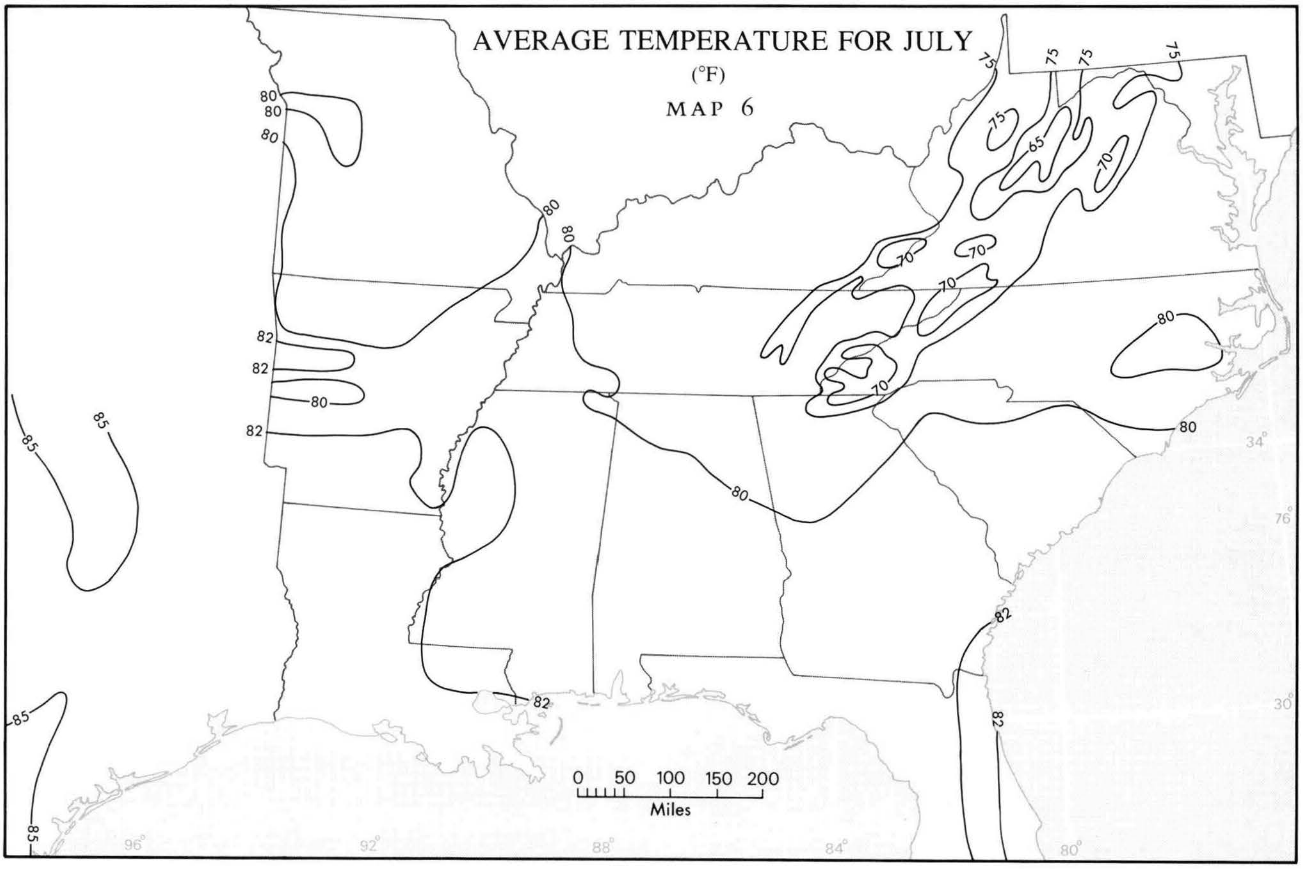
Cotton, sugarcane, and citrus are the most obvious examples of crops that thrive in the South. Citrus and sugarcane are limited to the southern fringes of the continent, the latter extending in places a hundred miles or more inland, while the former is restricted to peninsular Florida, the coastal fringes of Louisiana, and the Rio Grande valley of Texas. Scattered production of cane (for syrup) occurred during the antebellum period as far north as central Mississippi and Alabama, but sustained production of granulated sugar was much more limited. Cotton, on the other hand, was grown rather widely in the South, even into the Old Northwest, but production in quantity was limited to a great swath across the lower south with a bulge extending north into southern Illinois. A few crops that are often identified as southern, such as tobacco and sweet potatoes, also thrive outside the South.

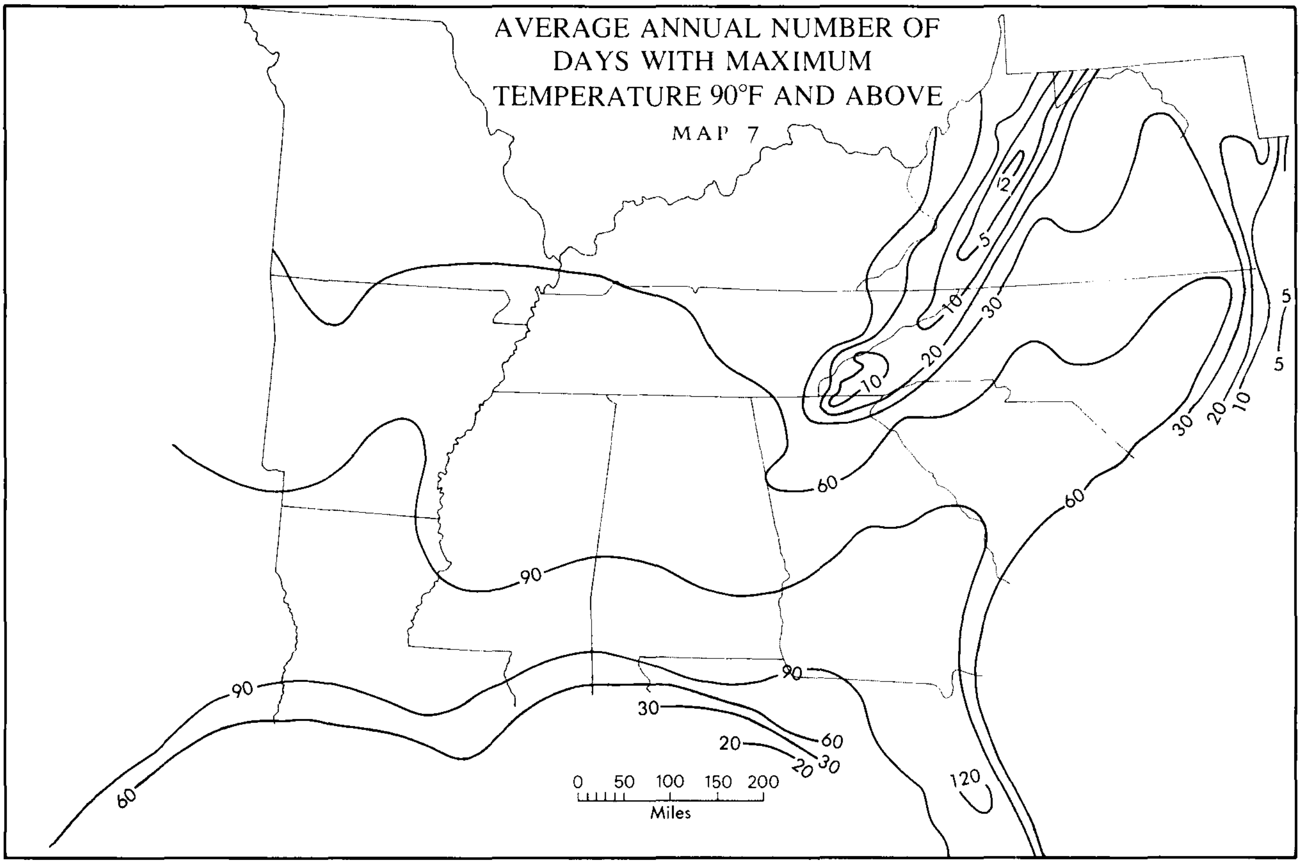
Although the long southern growing season was conducive to the production of some crops, certain food crops, such as Irish potatoes, cabbage, and green peas, did best in the cooler hill lands. In the Deep South they were often planted as winter crops. Small grains were not grown in large quantities in the lower South, a fact that was only partly due to environmental conditions, for the existence of wheat and oats over much of the area in the twentieth century suggests that other factors were at work.

In a region the size of the South one would expect the climate to vary widely from place to place. The area covered in this volume extends from about 29 to 41 degrees latitude, a north-south distance of some eight hundred miles, roughly comparable to traveling in a straight line from Madrid to Amsterdam. Such a latitudinal distance encompasses a temperature range of only about 5 Fahrenheit degrees in July, but in winter the range is much more pronounced. The average January temperature in northern Missouri is about 25 degrees Fahrenheit, while people in northern Florida bask in temperatures in the high 50s. Thus, latitude is the most significant determinant of temperature, but elevation also plays a part. The most obvious effect is shown over the Appalachians, where isotherms bend sharply to the south, indicating that temperatures are lower in higher elevations (Maps 5 and 6).

Although temperature averages provide one measure of sensibility to any living thing, temperature extremes are also important. Summers are warm to hot over most of the area, though the number of very hot days (over 90 degrees F) varies from 2 days per year in the central Appalachians to 120 days in north-central Florida. The average number of such days for most of the area is on the order of 50 to 100 (Map 7).Winters are fairly mild, but freezing temperatures occur throughout the region. As might be expected, the most severe cold temperatures are found in northern Missouri and the high Appalachians, where the thermometer drops to freezing or below for at least 120 days. Near the gulf and southern Atlantic coasts, such days occur on the average about two to ten


AVERAGE TEMPERATURE
FOR JANUARY
(°F)
MAP 5
25
30
35
40
45
50
55
60
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°


AVERAGE TEMPERATURE FOR JULY
(°F)
MAP 6
65
70
75
80
82
85
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°



AVERAGE ANNUAL NUMBER OF DAYS WITH MAXIMUM TEMPERATURE 90°F AND ABOVE

MAP 7

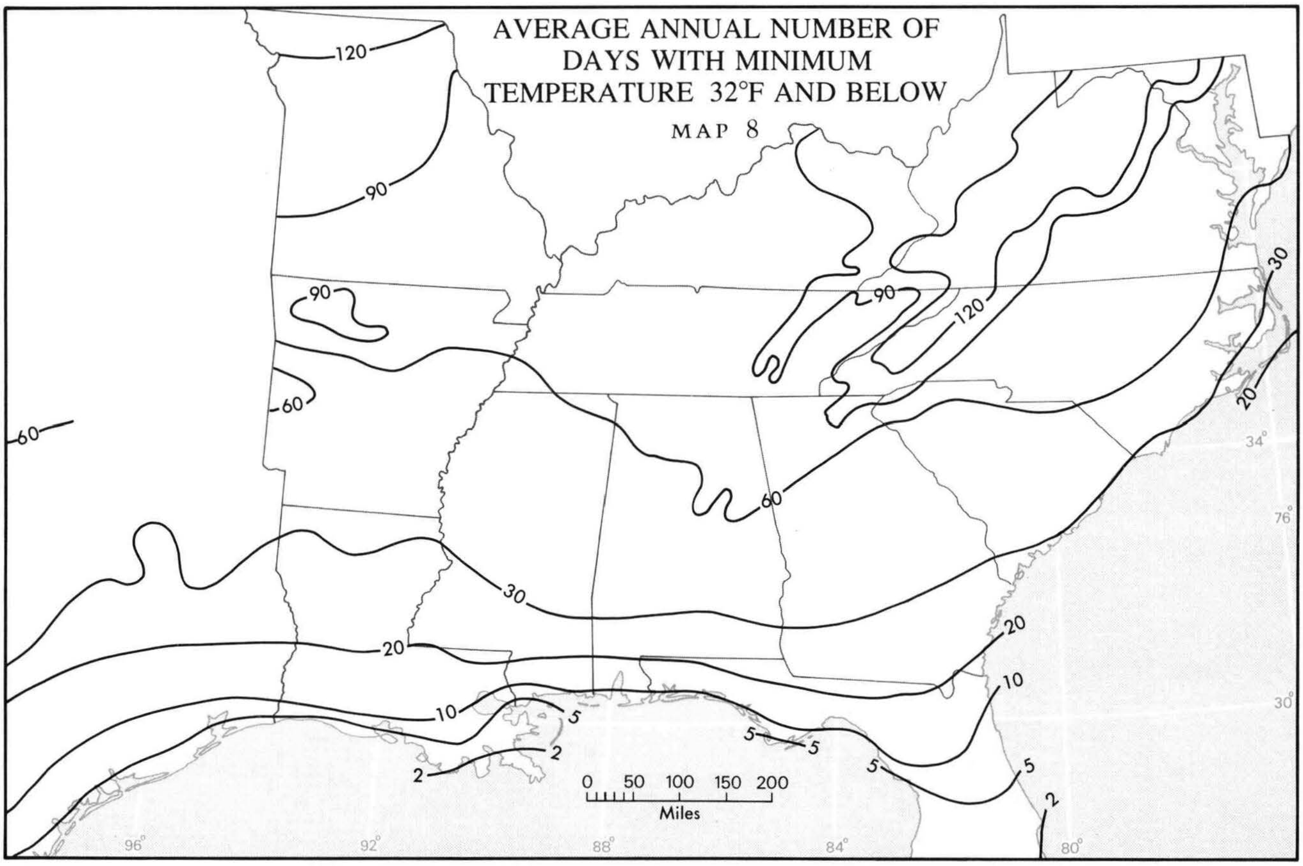
times annually. Over most of the area the figure ranges between 20 and 70 days (Map 8).

Maps 5 and 6 depict mean temperatures for January and July, but such averages obscure the occurrence of extremes that may prove lethal to many plants. Some of these extremes may astound those unfamiliar with southern weather. The following table lists the all-time highs and lows for selected cities. Please note that the period covered is 1931 to 1960. On rare occasions even these figures were exceeded in earlier years, though the data are spotty. In 1899 an outbreak of polar air moved into the South driving the thermometer to below zero as far south as Tallahassee.

Of particular importance to agriculture is the growing season. Defined as the number of days between the last freeze of spring and the first freeze of fall, the length of the growing season is above 210 days for most of the area. Only near the coasts and in Florida does the season reach 300 days (Map 9). The map of freeze-free days shows considerable complexity in the mountainous areas. Sharp differences may occur over relatively short distances owing to the effects of elevation,

Temperature Extremes of Selected Cities, 1931–1960

	High	Low
St. Louis	115	−22
Cincinnati	109	−17
Washington	106	−15
Raleigh	105	−2
Asheville	99	−7
Nashville	107	−15
Memphis	106	−11
Little Rock	108	−13
Fort Worth	109	−8
Shreveport	94	−5
Montgomery	107	−5
Atlanta	103	−9
Charleston	104	7
Jacksonville	105	10
Tallahassee	104	2
New Orleans	102	7
Houston	105	5
San Antonio	106	0
Brownsville	103	12



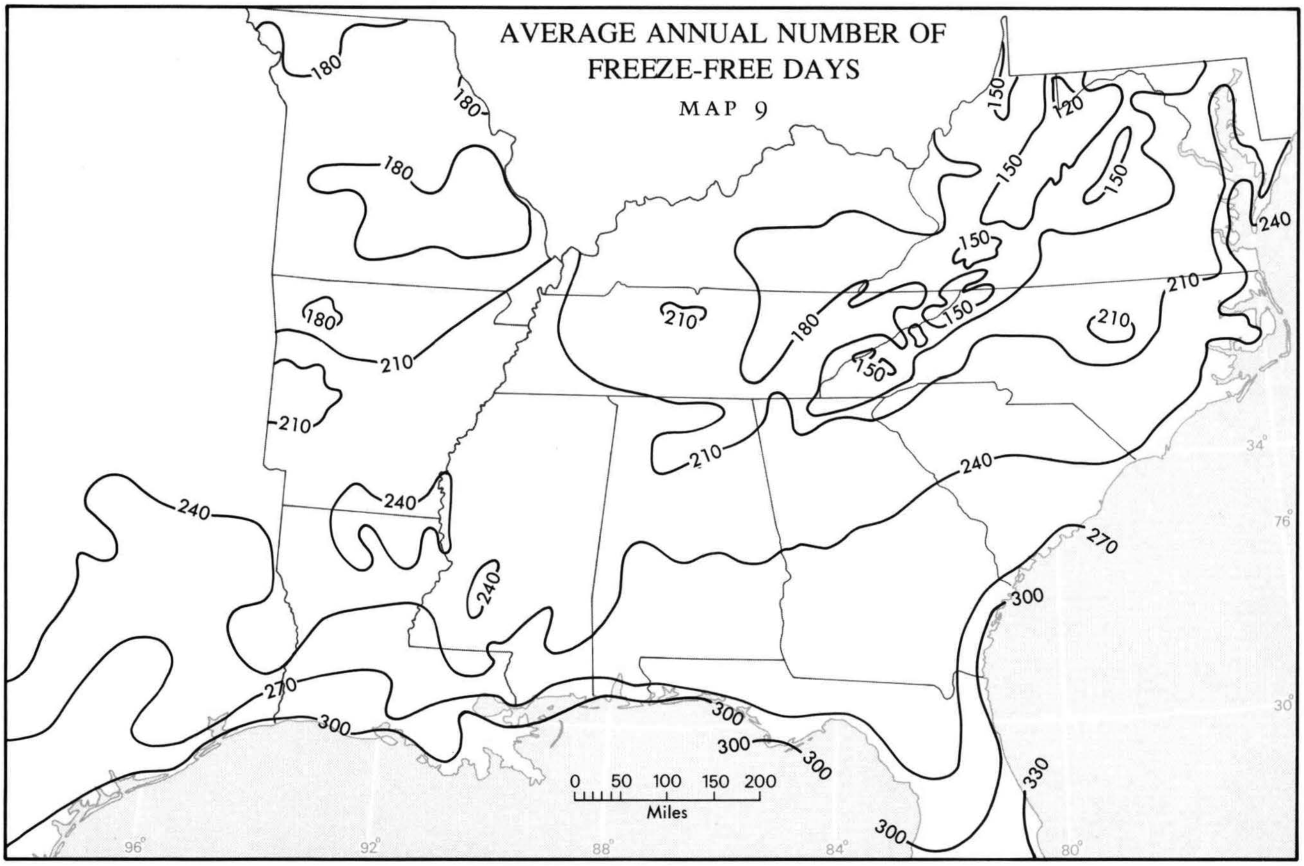
AVERAGE ANNUAL NUMBER OF DAYS WITH MINIMUM TEMPERATURE 32°F AND BELOW

MAP 8

slope, and air circulation. As is the case with temperature extremes, the growing season is by no means uniform from year to year. The occasional late spring or early fall freeze, or both, materially shorten or lengthen growing seasons from year to year.

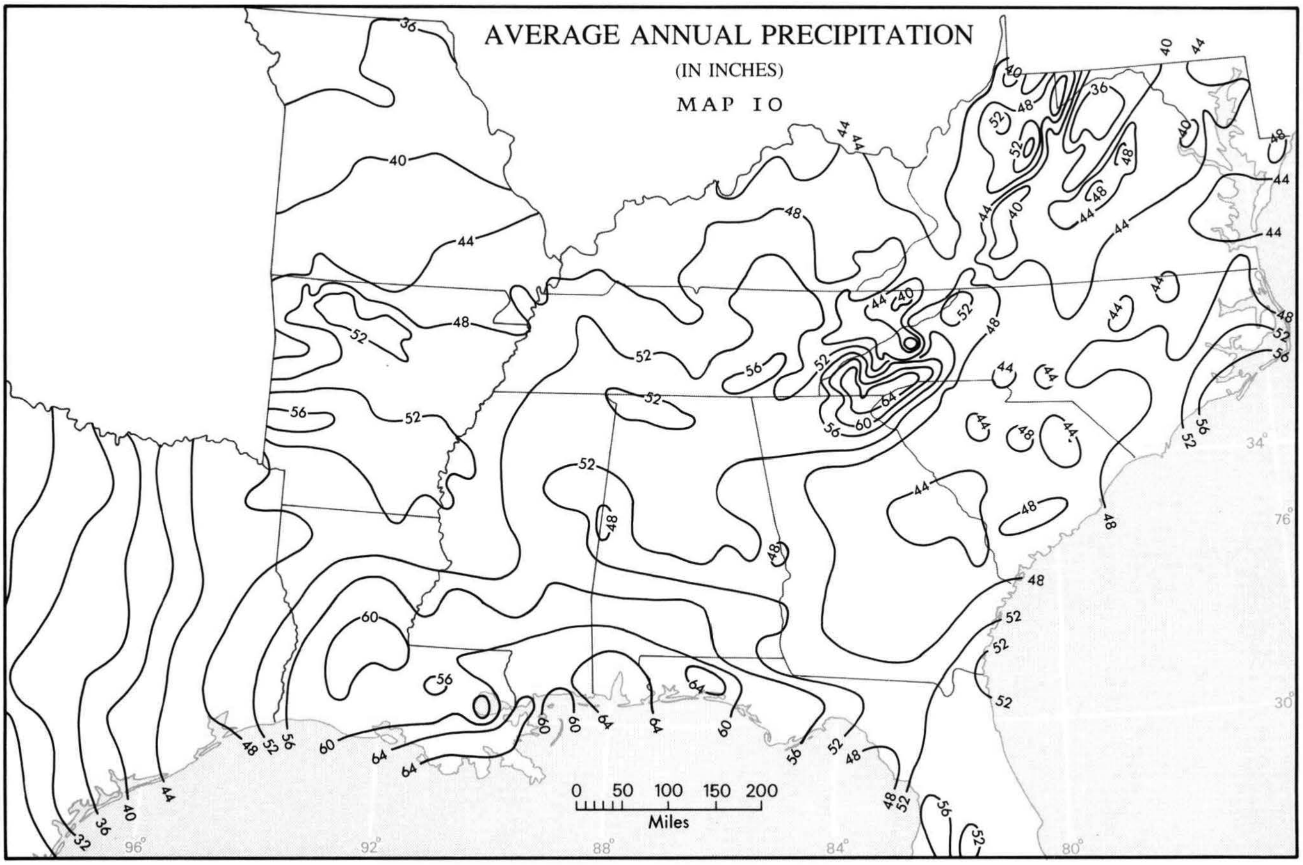
Precipitation in the South varies from about thirty inches per year in central Texas to eighty inches or more in the southern Blue Ridge (Map 10). Generally, the area has ample moisture for most crops, but it is important to remember that yearly averages obscure the occasional "dry year" when crops suffer or the uneven year when seasonal droughts result in inadequate rainfall during the growing season. Years during which precipitation was below normal during spring or summer have often occurred in clusters that worked particular hardships on those who hoped to recover losses in the year following a drought. Furthermore, drought usually occurs locally with some areas suffering while others fare quite well. Such droughts are exacerbated by the existence of soils that have poor moisture retention. The map showing average annual precipitation gives the overall picture, but local conditions and year-to-year variations should be kept in mind.

Any description of climate in the South, however brief, would be incomplete without reference to conditions that are often identified with the region. The tropical hurricane is by no means a local phenomenon, but it does have an affinity for the southern Atlantic and gulf coasts. Ranging from relatively minor tropical storms that come ashore to drench the area for several days to full-fledged hurricanes that cause widespread devastation and death, they are (and were) an annual threat to those located within a hundred miles of the coast, and in some instances they swept across several states, destroying crops, spawning local tornadoes, and washing out dams and terraces. Generally, hurricanes occurred in late summer and fall and were particularly vexing to cane, cotton, and rice growers. Cane and cotton were susceptible because the storms struck while the plants were nearing harvest. The tall cane stalks could be flattened by high winds, and freshly opened cotton bolls were susceptible to damage by heavy rains. Rice planters dreaded such storms



AVERAGE ANNUAL NUMBER OF FREEZE-FREE DAYS

MAP 9



AVERAGE ANNUAL PRECIPITATION

(IN INCHES)

MAP 10

because high tides could breach dikes and flood fields with salt water. The capricious nature of the hurricane precluded a given area's being hit every year, but no one could predict what areas were susceptible in any given year, and in some years several struck one area or another.

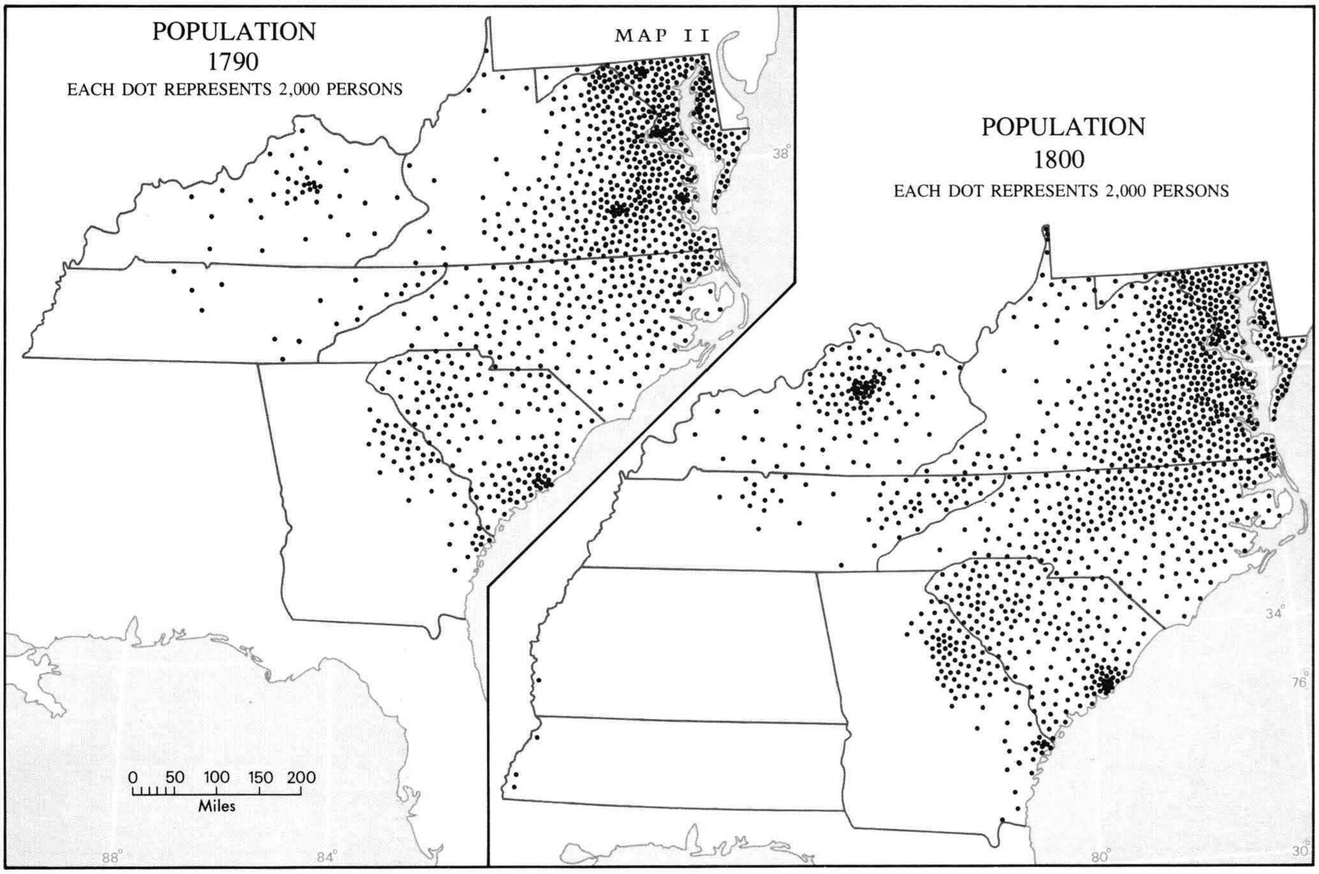
Other hazards were tornadoes, ice (or glaze) storms, hail, and flash floods (or freshets). Most of these were not peculiar to the South, nor can they be mapped easily, for they were local phenomena striking here and there in an unpredictable manner. Exceptions were the ice storms and floods. The former were especially common to the inland South, occurring in a belt that stretched in a broad belt from North Carolina westward, causing the greatest damage to fruit and nut trees and to the southern forests. Spring floods were common on all streams but were especially troublesome along the Mississippi and its tributaries, where spring snow melt swelled waters to the point of overtopping riverbanks. Their severity increased through time as the Mississippi watershed was deforested by increased settlement and new lands were put to the plow thereby increasing surface runoff.

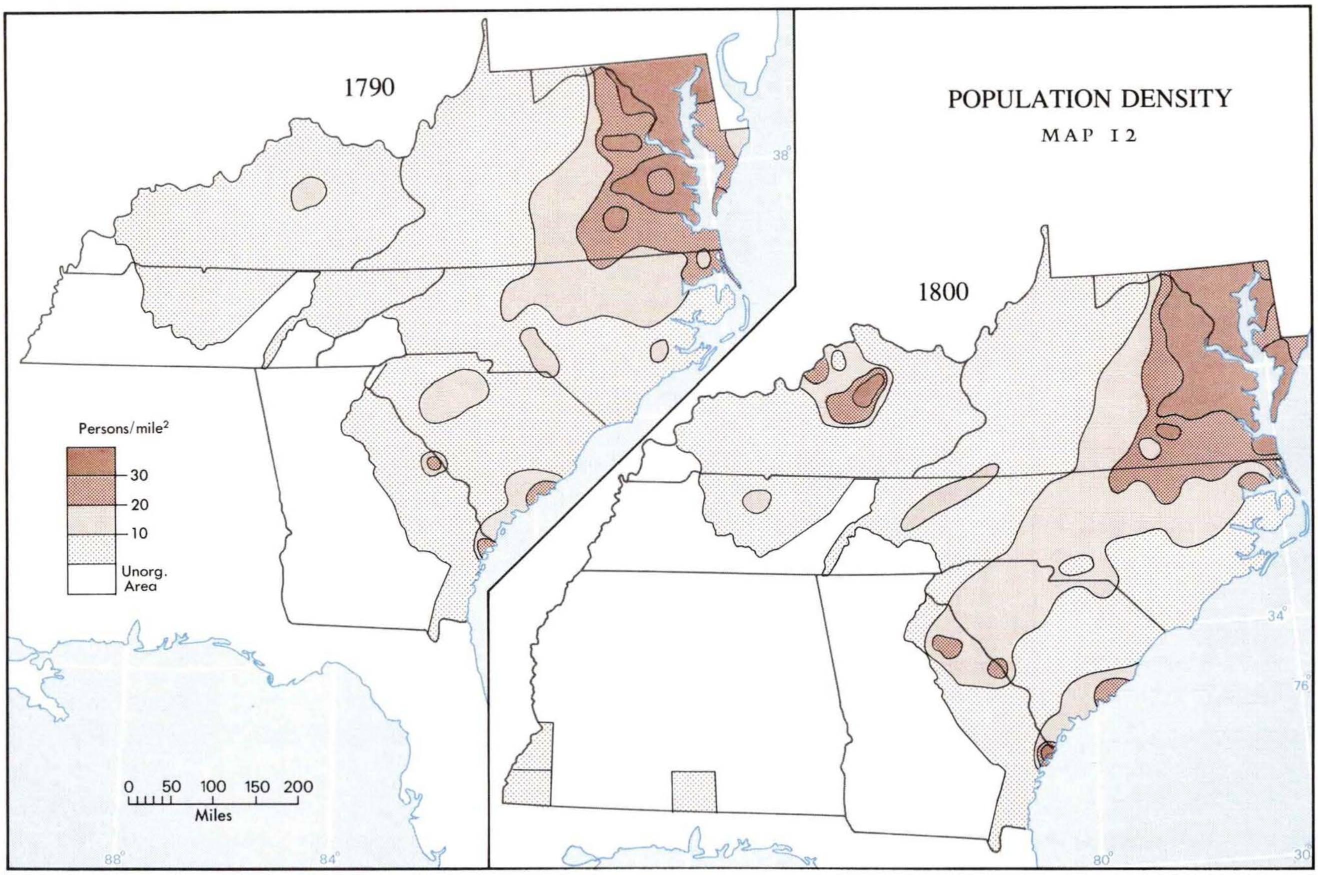
III

Population

Population in the area increased from less than two million in 1790 to about twelve million by 1860, the increase occurring during a time of rapid areal expansion. At the time of the first census (1790), almost all persons were located east of a line drawn from Savannah, Georgia, northwestward to the Ohio River at about Louisville, Kentucky, and the bulk of them were east of the Appalachians. Scattered settlements lay outside the organized area, such as those in Florida, Mobile Bay, Louisiana, Texas, and Missouri, but they totaled but a few thousand people. During the next seventy years the area was inundated by a series of population waves resulting in effective settlement that extended throughout the area. Population continued to grow after 1860, but, for the most part, the growth was simply an intensification of settlement on lands that had already been occupied.

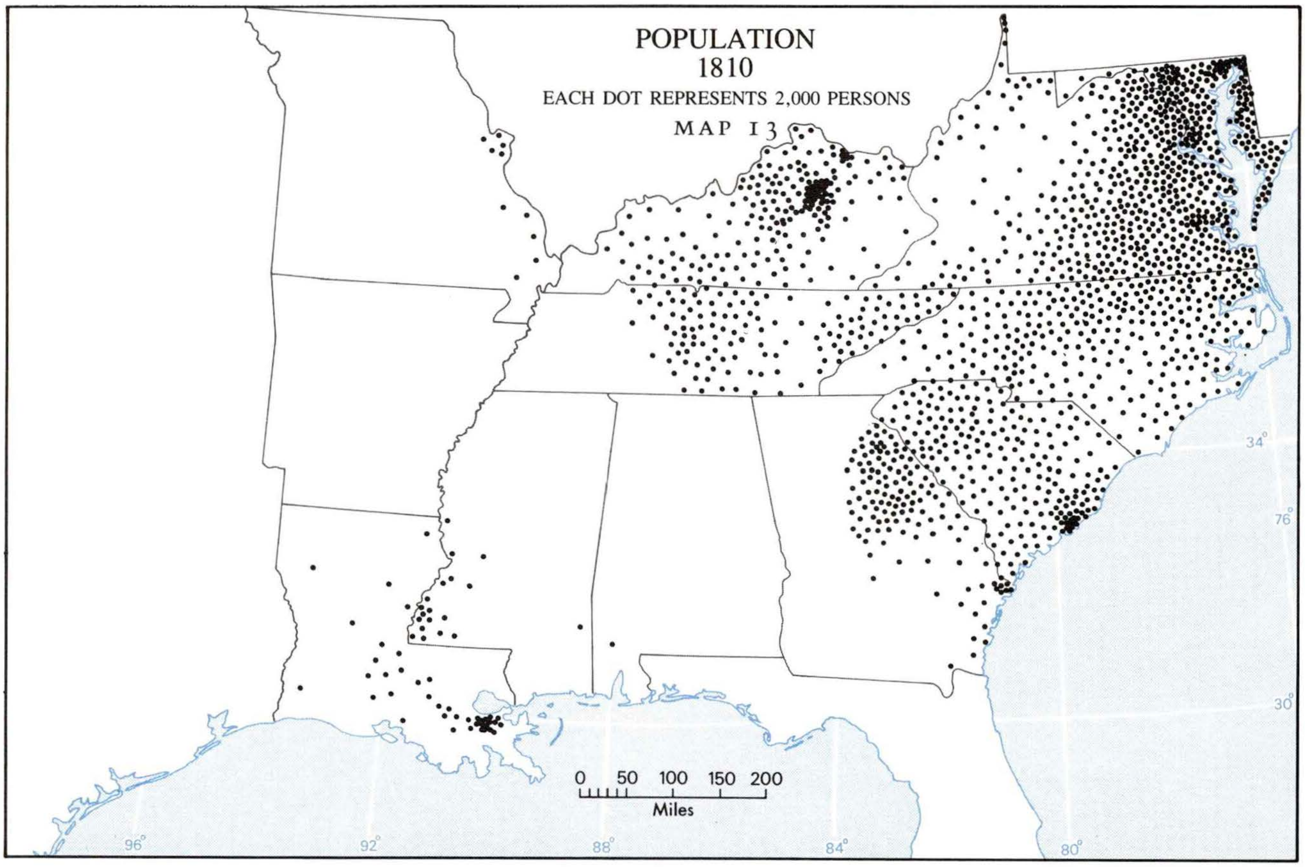
Population is mapped in two ways. Actual numbers are plotted using the dot method with each dot representing 2,000 persons, including slaves. The dot map of each period is placed at the top of each page, and on the same page is an isorithmic





POPULATION DENSITY

MAP 12

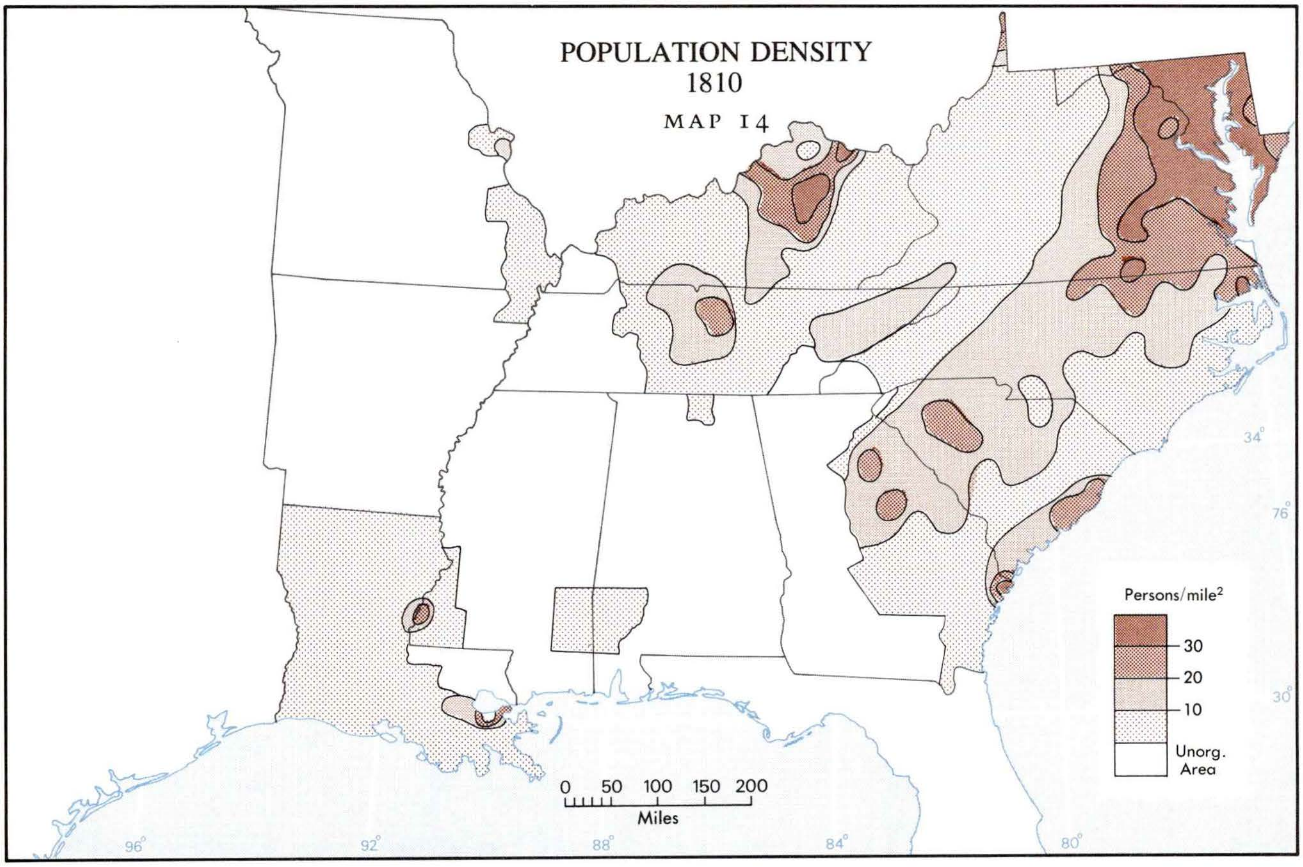


POPULATION

1810

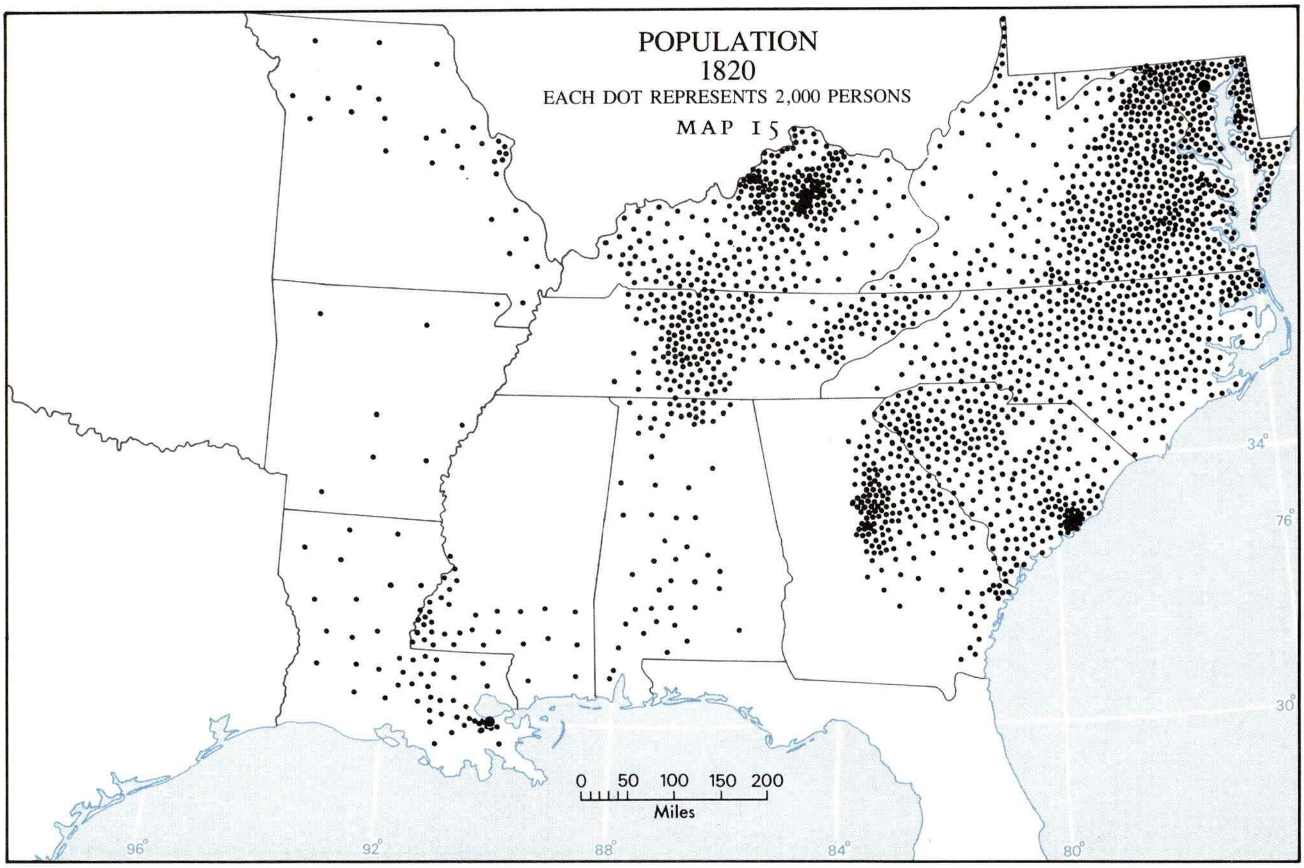
EACH DOT REPRESENTS 2,000 PERSONS

MAP 13

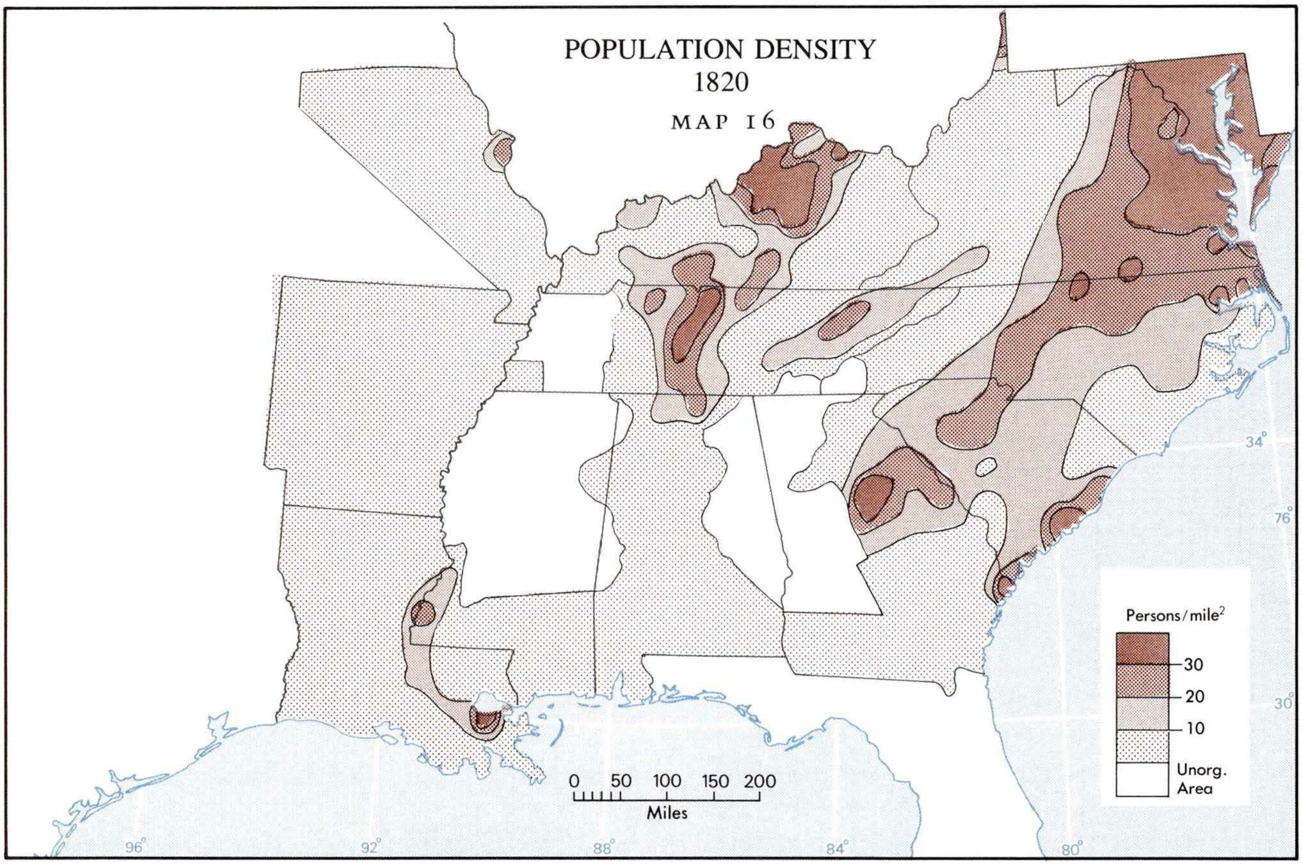


map showing population density for the same census year expressed as the number of persons per square mile. Blank areas appearing on maps for the years before 1840 indicate either unceded Indian lands or areas not yet organized into counties. Slave population is mapped for the same census years using the dot method, with each dot representing 2,000 slaves. Accompanying each dot map of slaves is a choropleth map showing slaves as a percent of total population: thus the viewer can see at once the number of slaves in a given area and also their proportion of the total population.

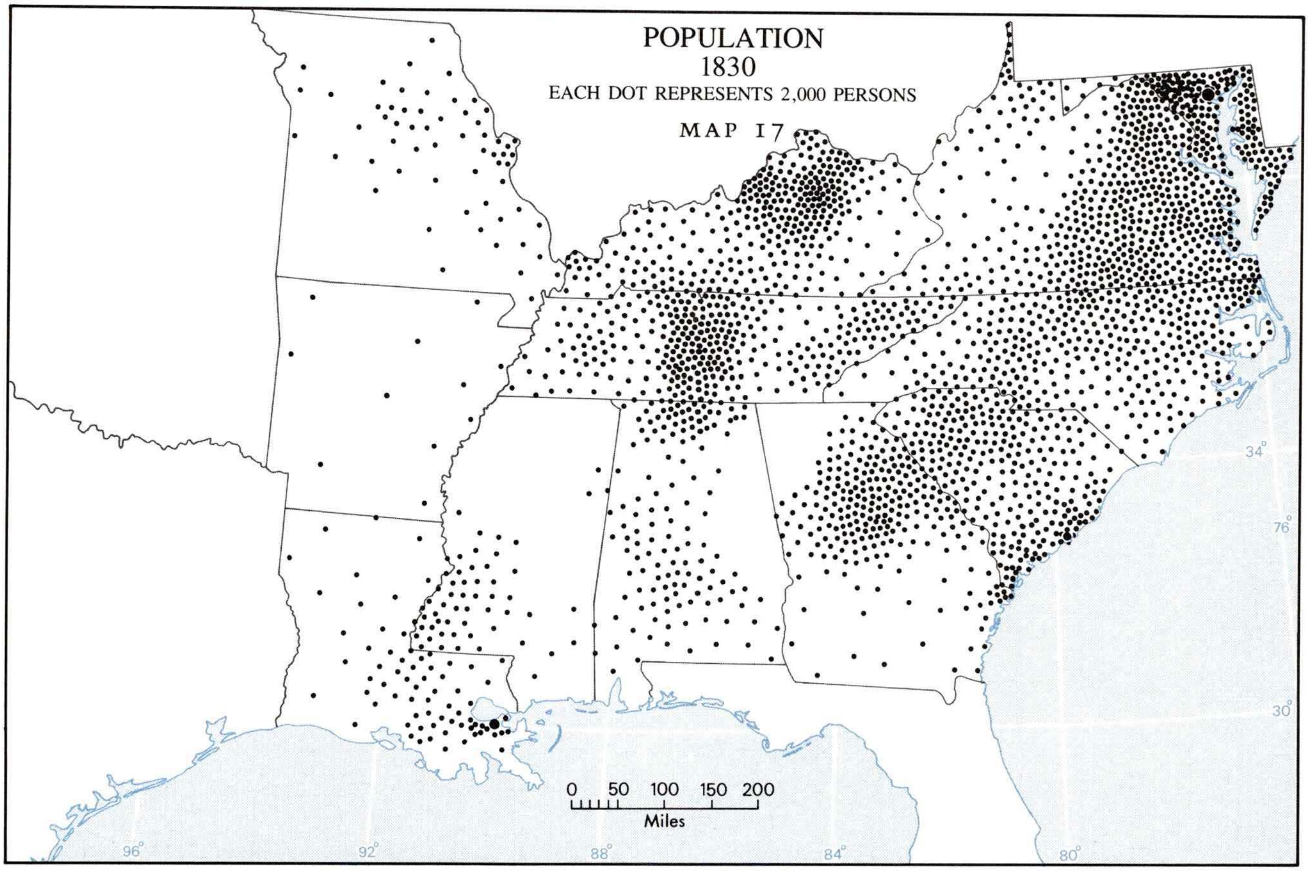
Maps 11 through 24 depict the dramatic, almost explosive, expansion of people across the face of the South. Beginning with a core along the shores of Chesapeake Bay and a few scattered outliers farther south, the spreading population moved west and south. By 1800 scattered nuclei in coastal South Carolina and Georgia, the southern Great Valley, the Nashville Basin, and the Bluegrass Basin had emerged. The following decade saw these areas intensifying, but new ones were added in the Natchez district of Mississippi and lower Louisiana. By 1820 Indian cession lands in



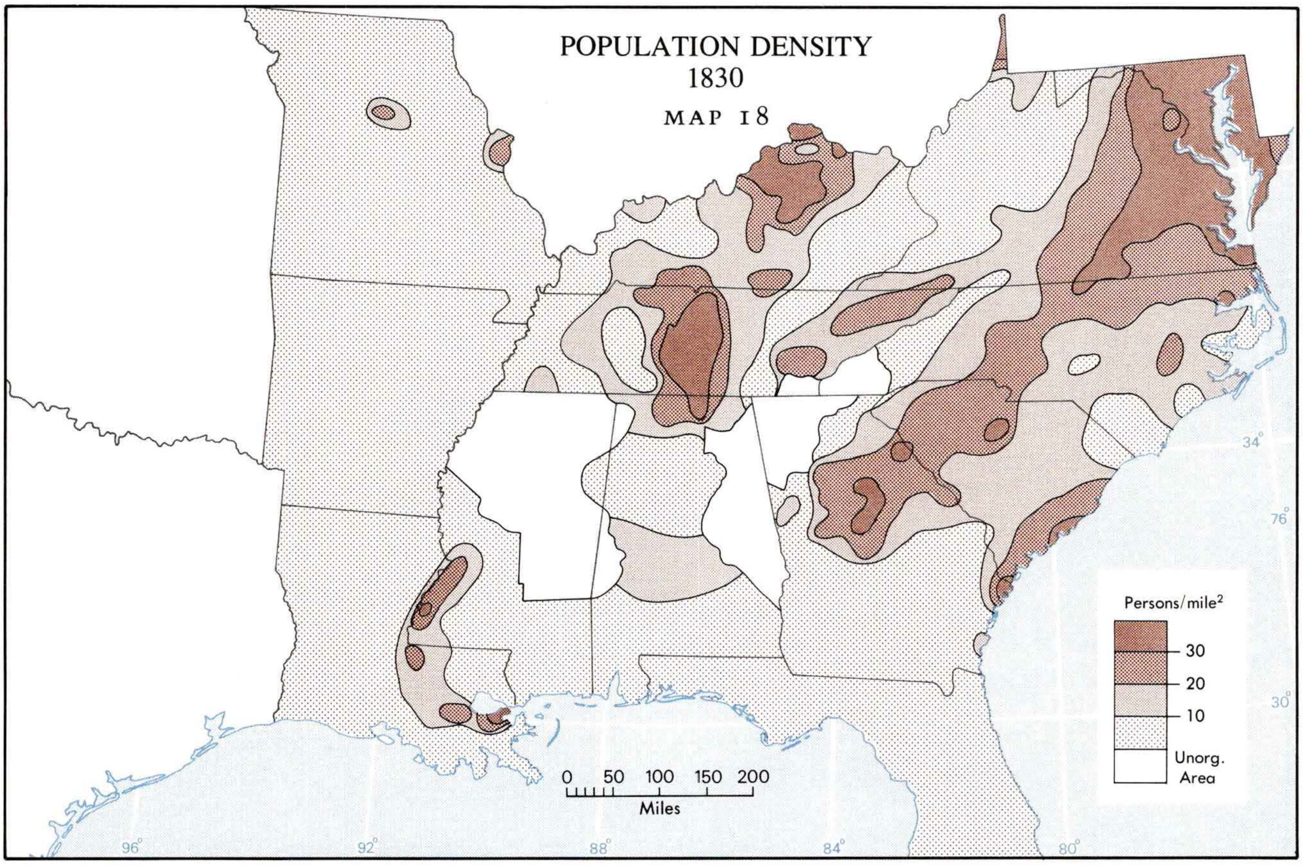
POPULATION
1820
EACH DOT REPRESENTS 2,000 PERSONS
MAP 15



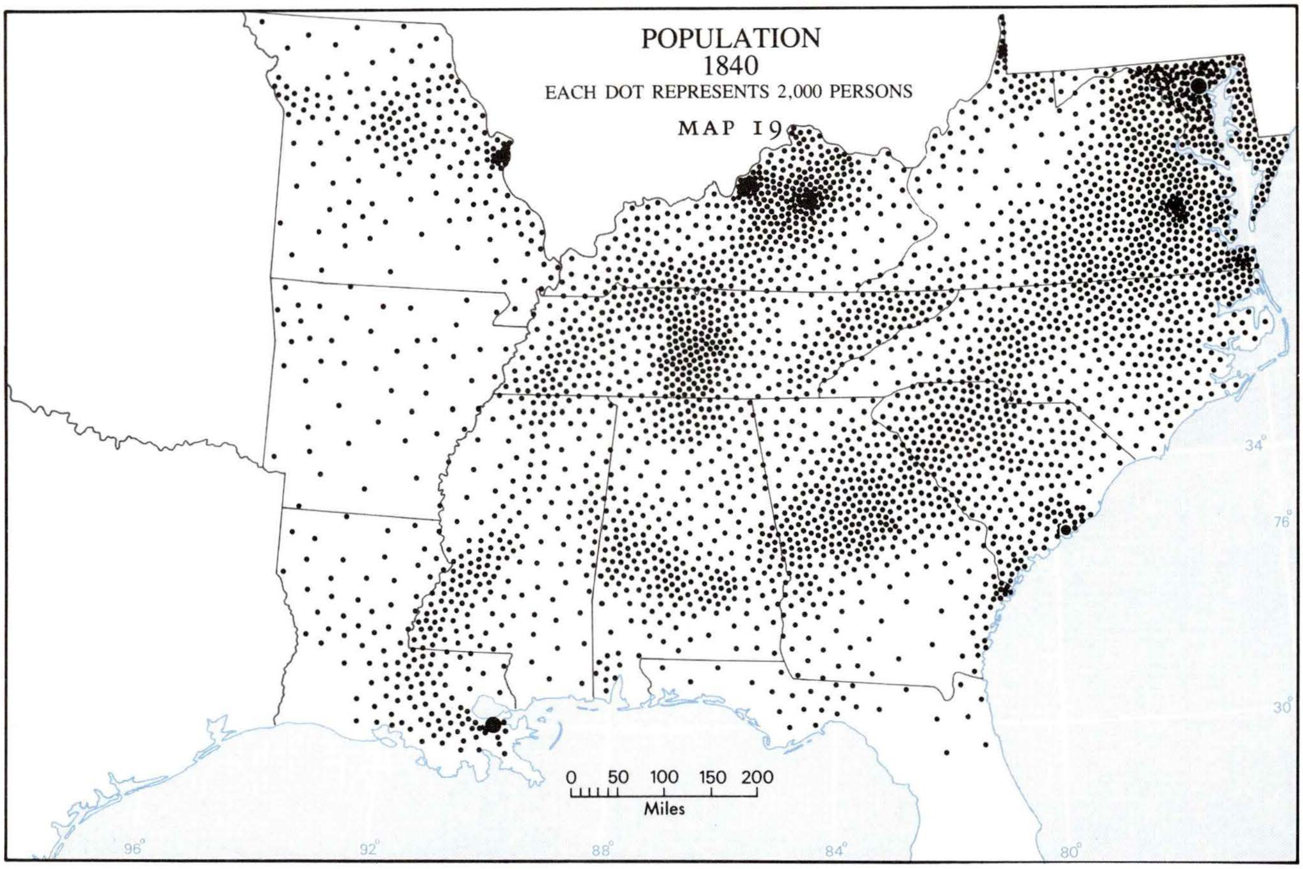
POPULATION DENSITY
1820
MAP 16



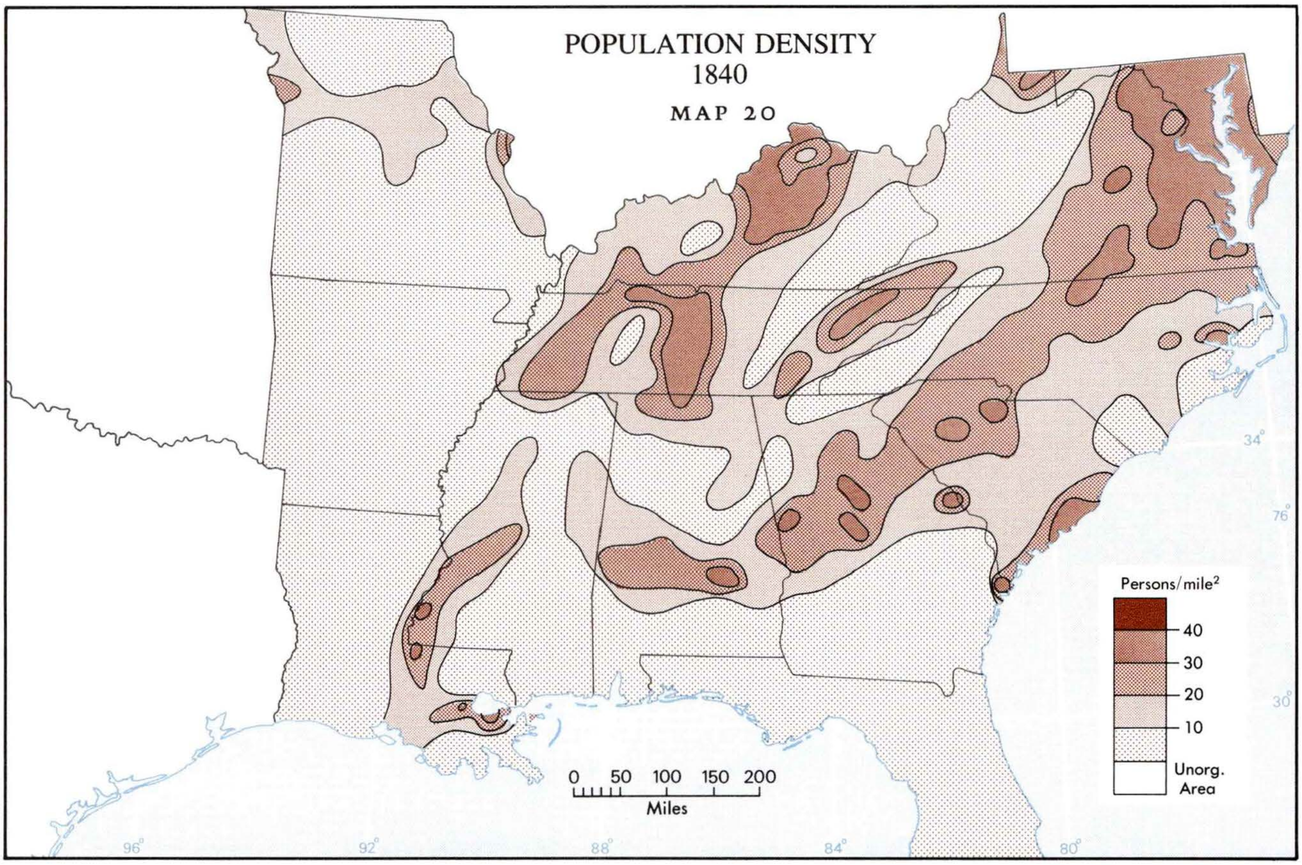
POPULATION
1830
EACH DOT REPRESENTS 2,000 PERSONS
MAP 17



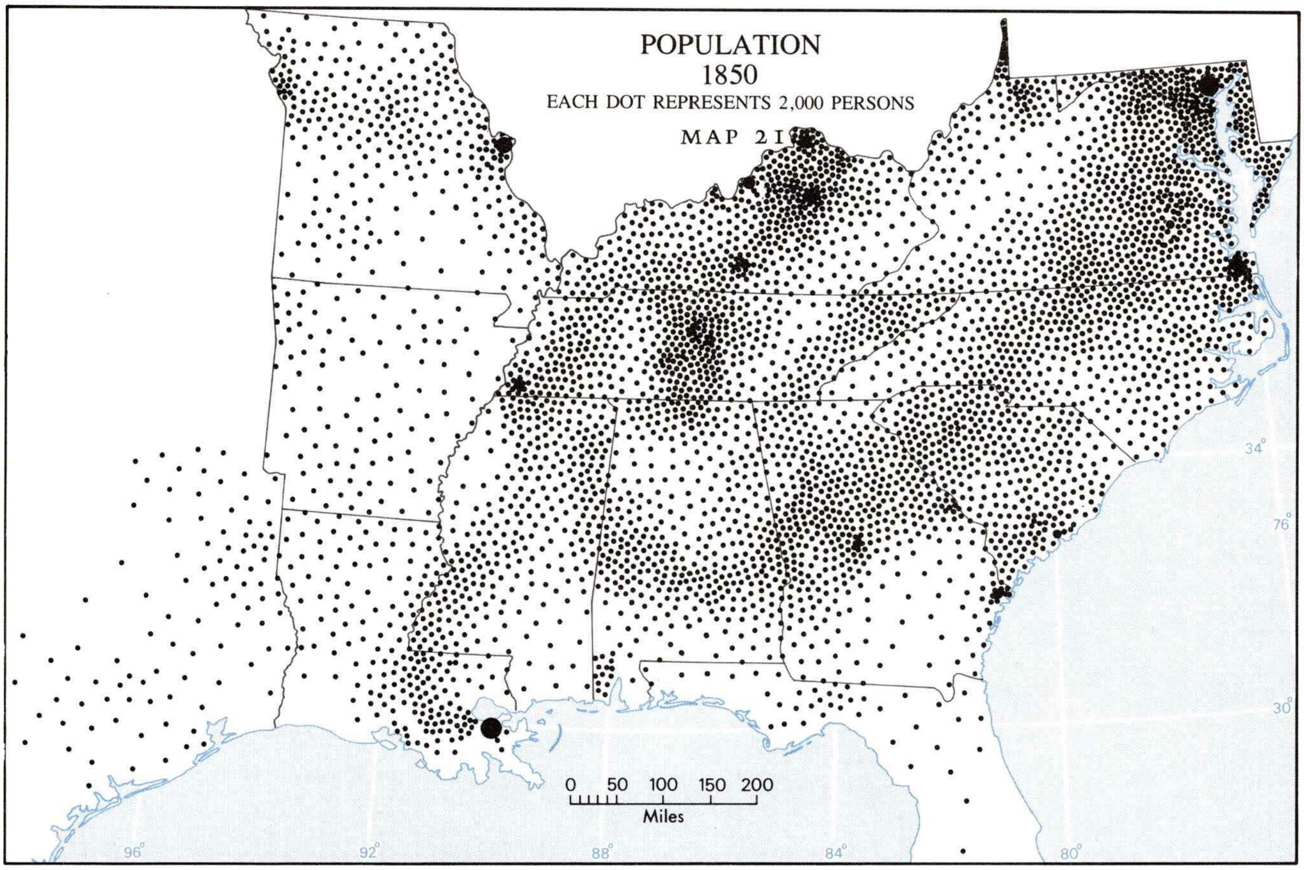
POPULATION DENSITY
1830
MAP 18

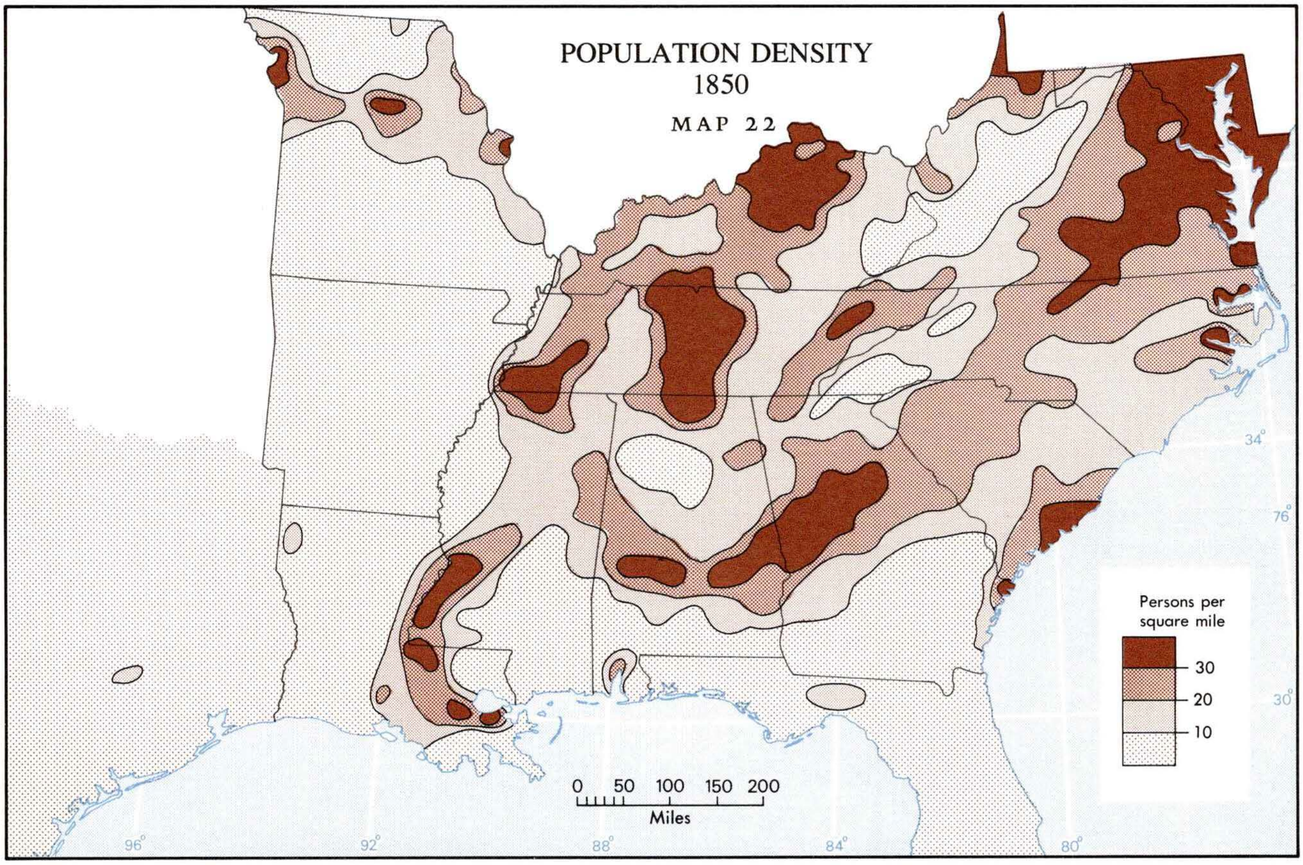


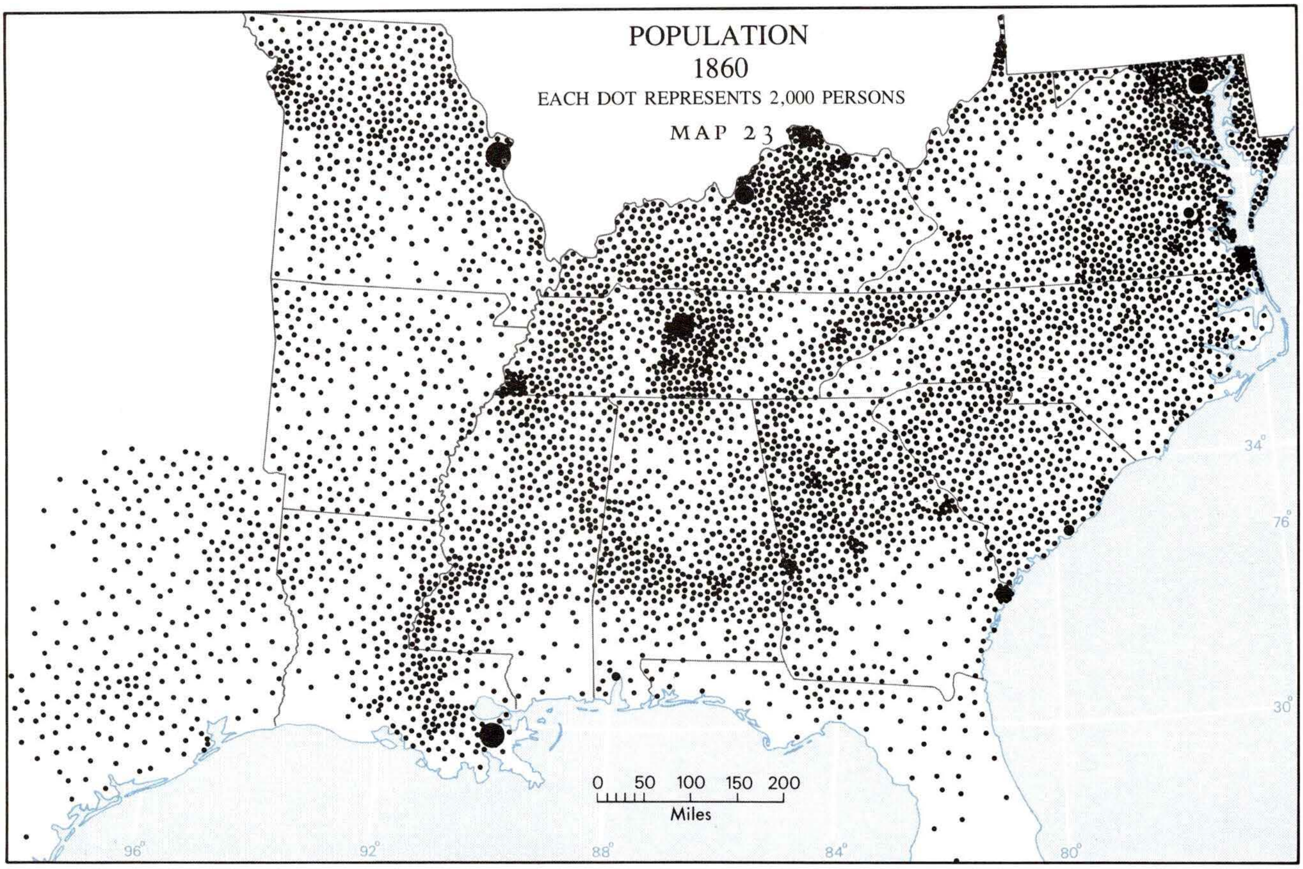
POPULATION
1840
EACH DOT REPRESENTS 2,000 PERSONS
MAP 19



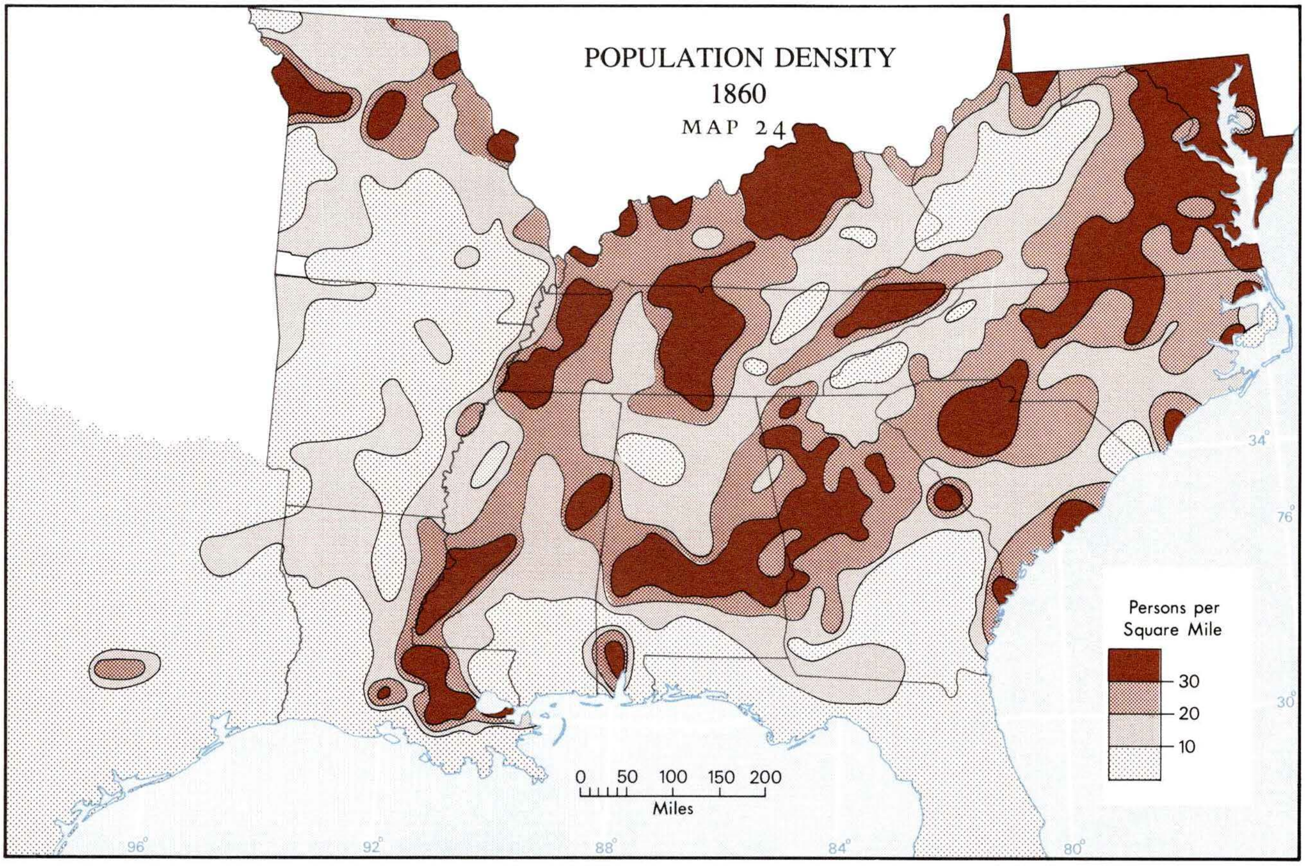
POPULATION DENSITY
1840
MAP 20


POPULATION
1850
EACH DOT REPRESENTS 2,000 PERSONS
MAP 21
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°


POPULATION DENSITY
1850
MAP 22
34°
76°
30°
Persons per square mile
30
20
10
0 50 100 150 200
Miles
96°
92°
88°
84°
80°



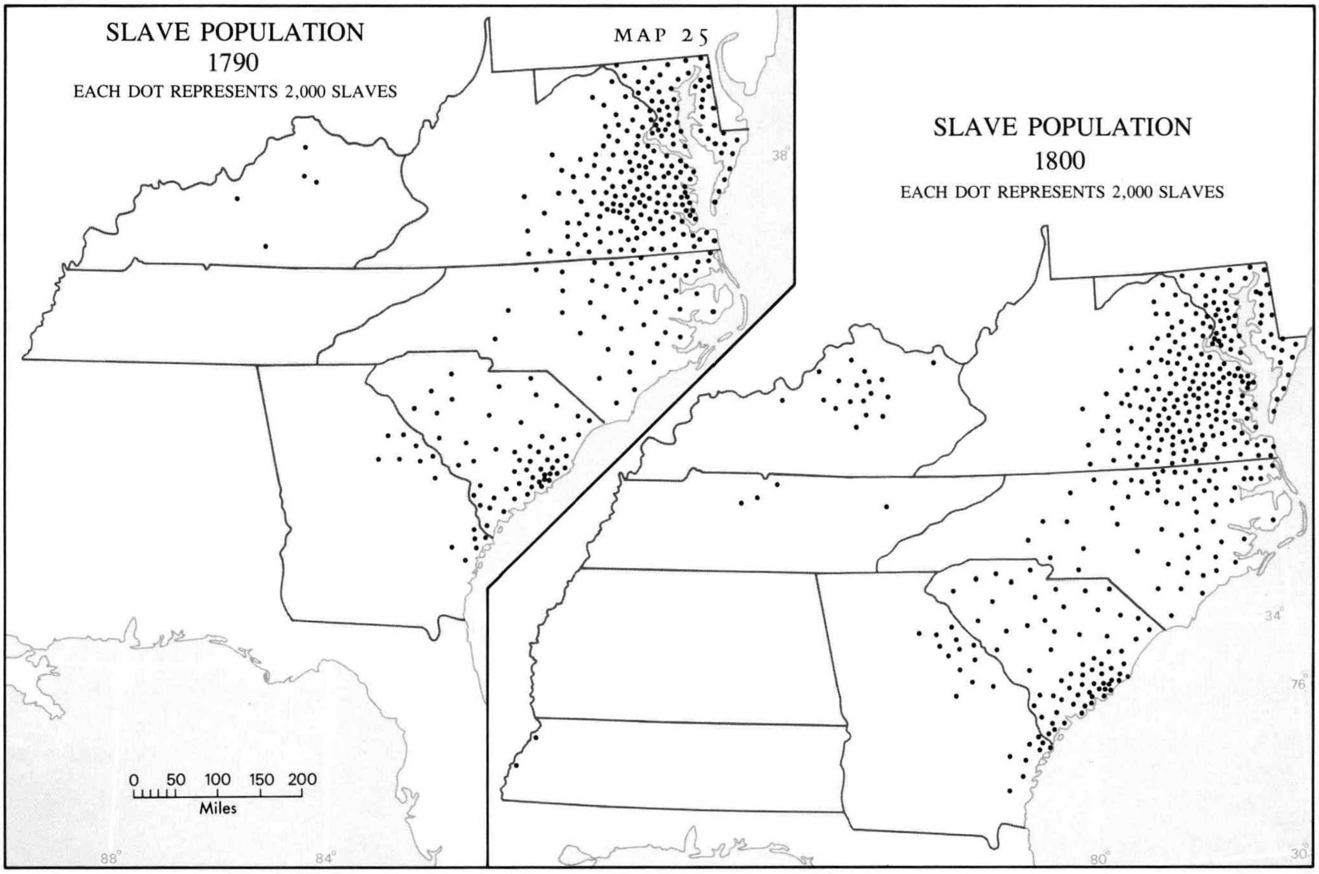
POPULATION
1860
EACH DOT REPRESENTS 2,000 PERSONS
MAP 23

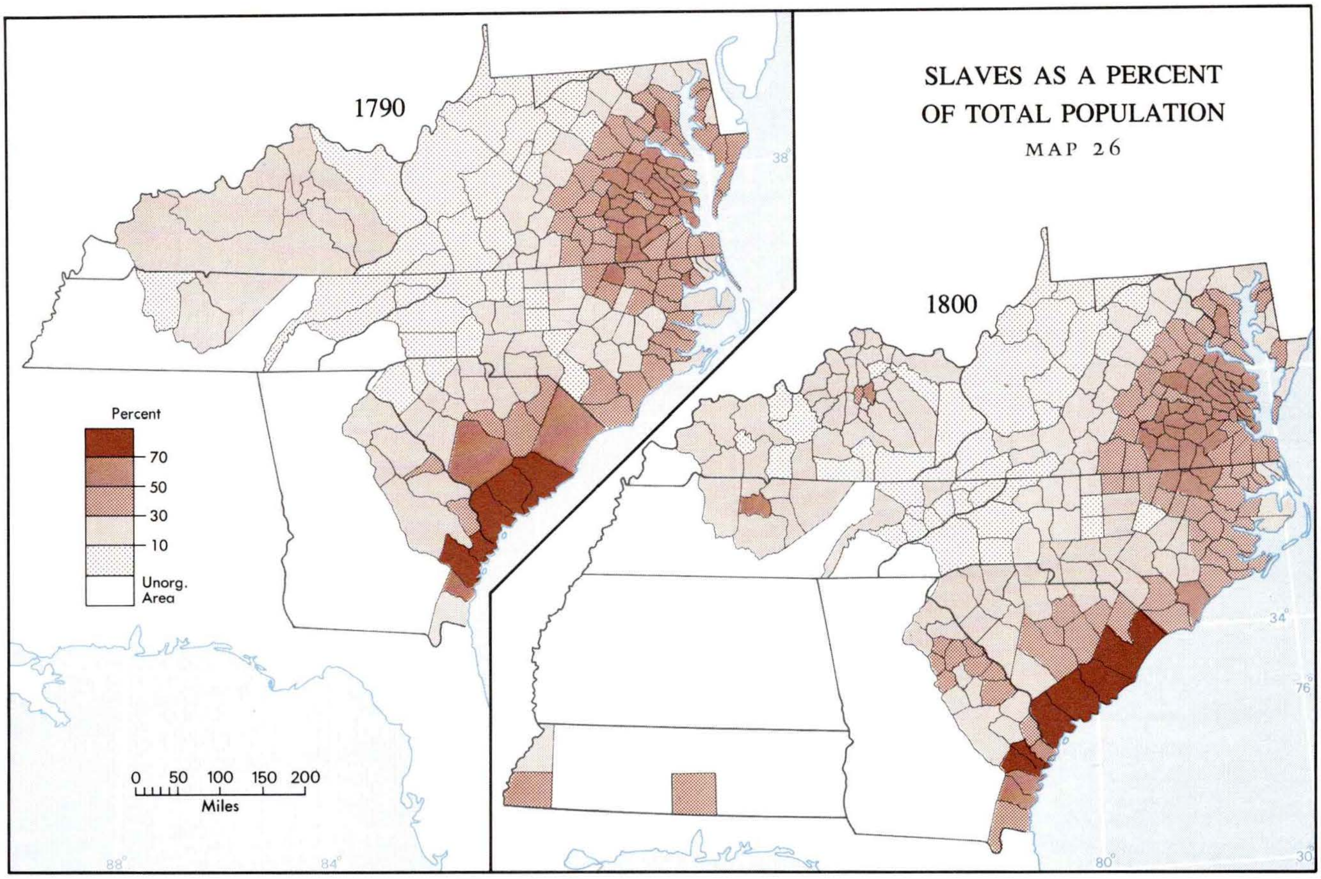


POPULATION DENSITY
1860
MAP 24

Alabama and Mississippi were attracting settlers. The cores of high density remained where they had been in 1800, though all had expanded in size, a process that continued through the decade of the twenties. During the 1830s the last of the large Indian cessions was made, clearing the way for even more rapid settlement, until by 1840 a population pattern had emerged that was to remain for years. Highest population density showed in a broad band that extended from Maryland southwestward along the Piedmont into the Carolinas. This belt became more dense on the better land of western Georgia and the Alabama Black Belt. Other pockets of high density were the Bluegrass Basin, the Nashville Basin, the valley of eastern Tennessee and northwestern Virginia, western Tennessee, the Natchez district, lower Louisiana, the Missouri River valley of Missouri, and several Atlantic coastal counties that contained port cities.

At first glance slaves appear to have been distributed similarly to the total population, but a closer look reveals striking differences (Maps 25 through 38). For the most part, slaves were most numerous in the tobacco-producing areas of Vir-

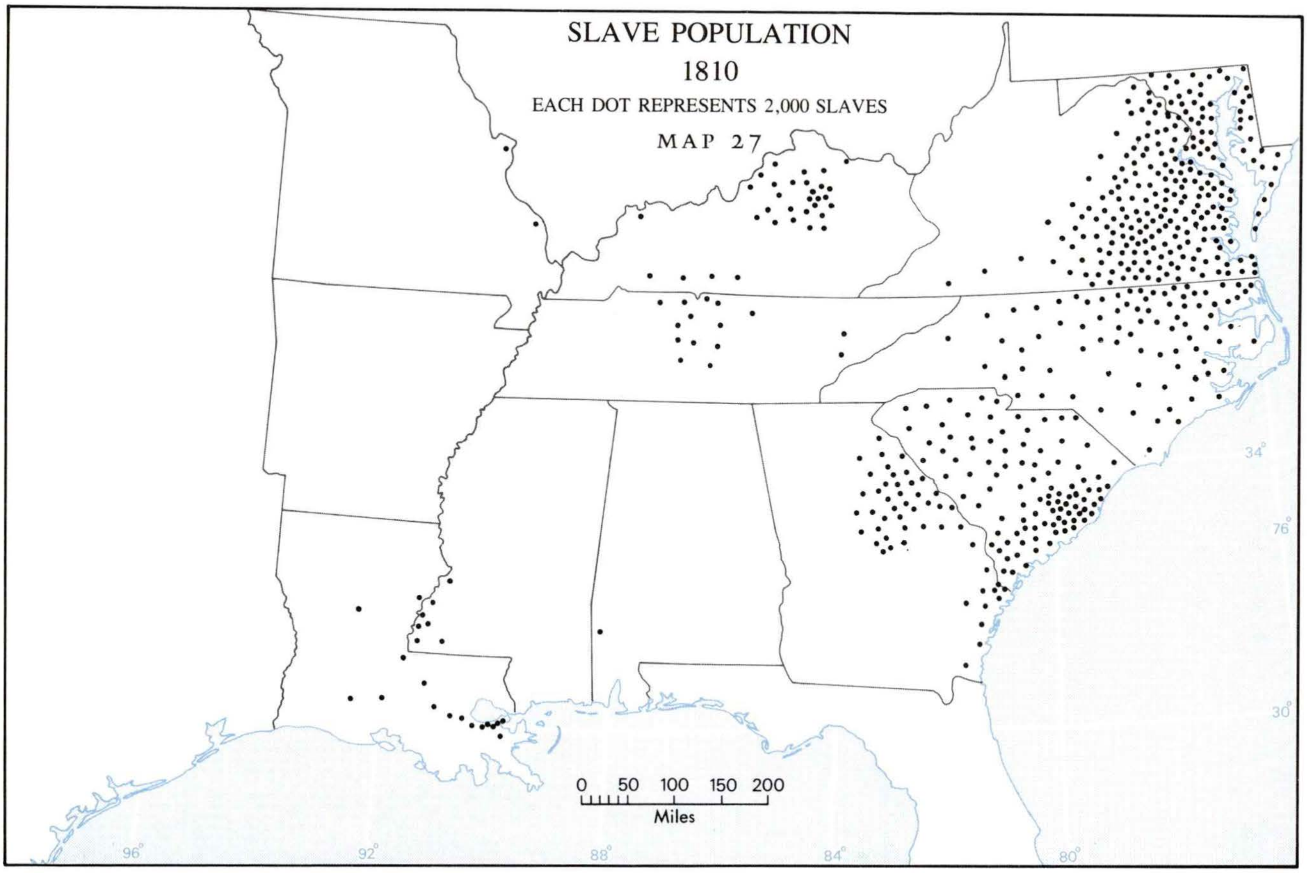


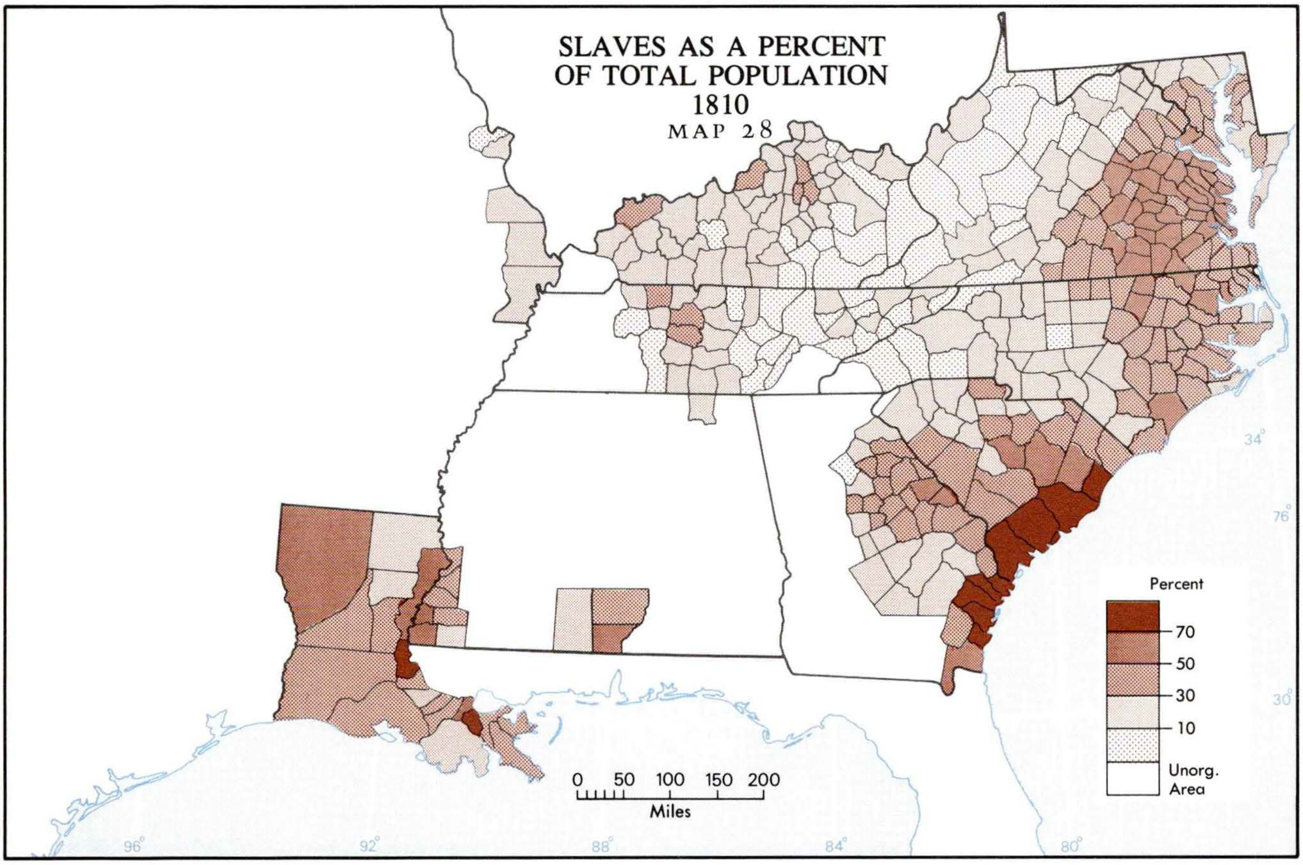


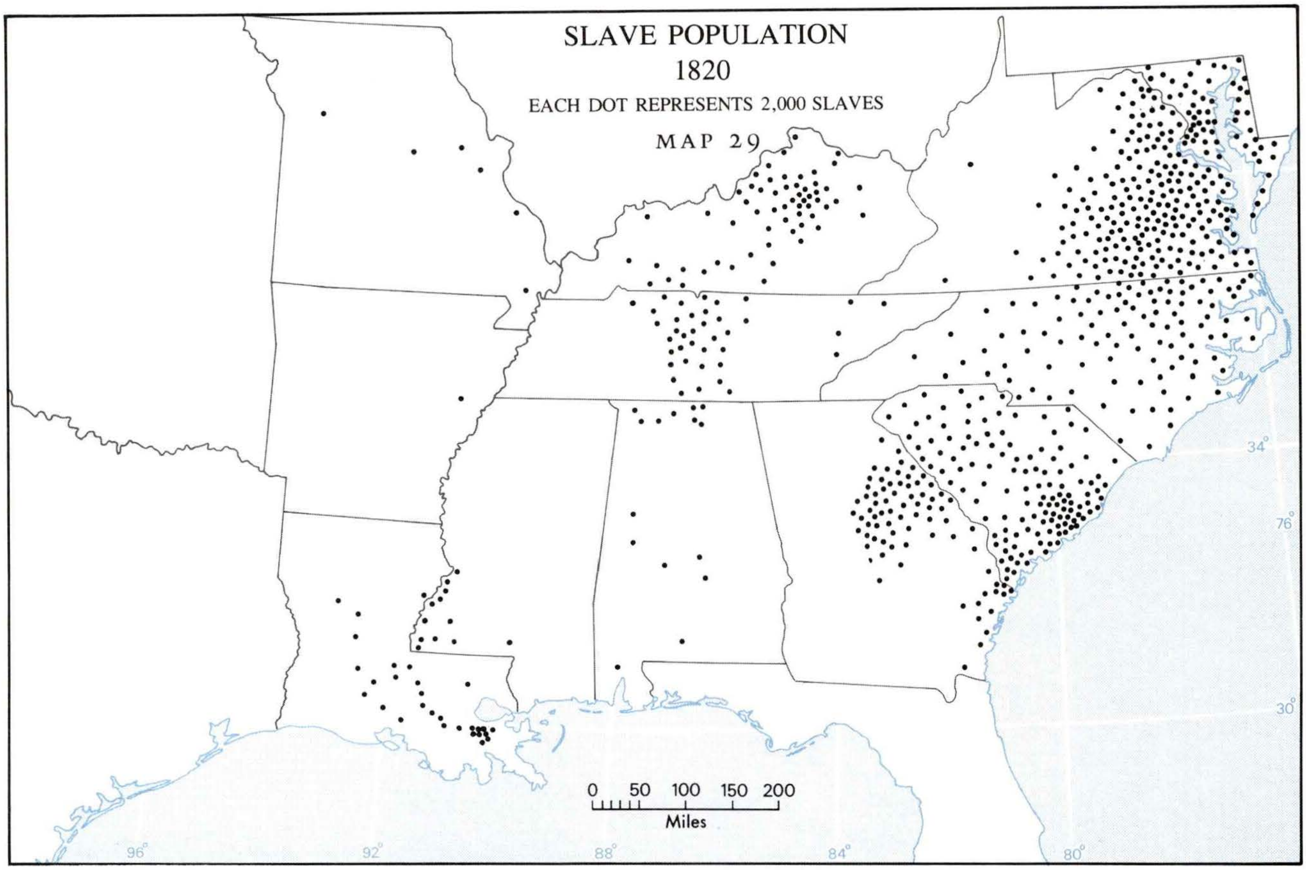
SLAVES AS A PERCENT OF TOTAL POPULATION

MAP 26

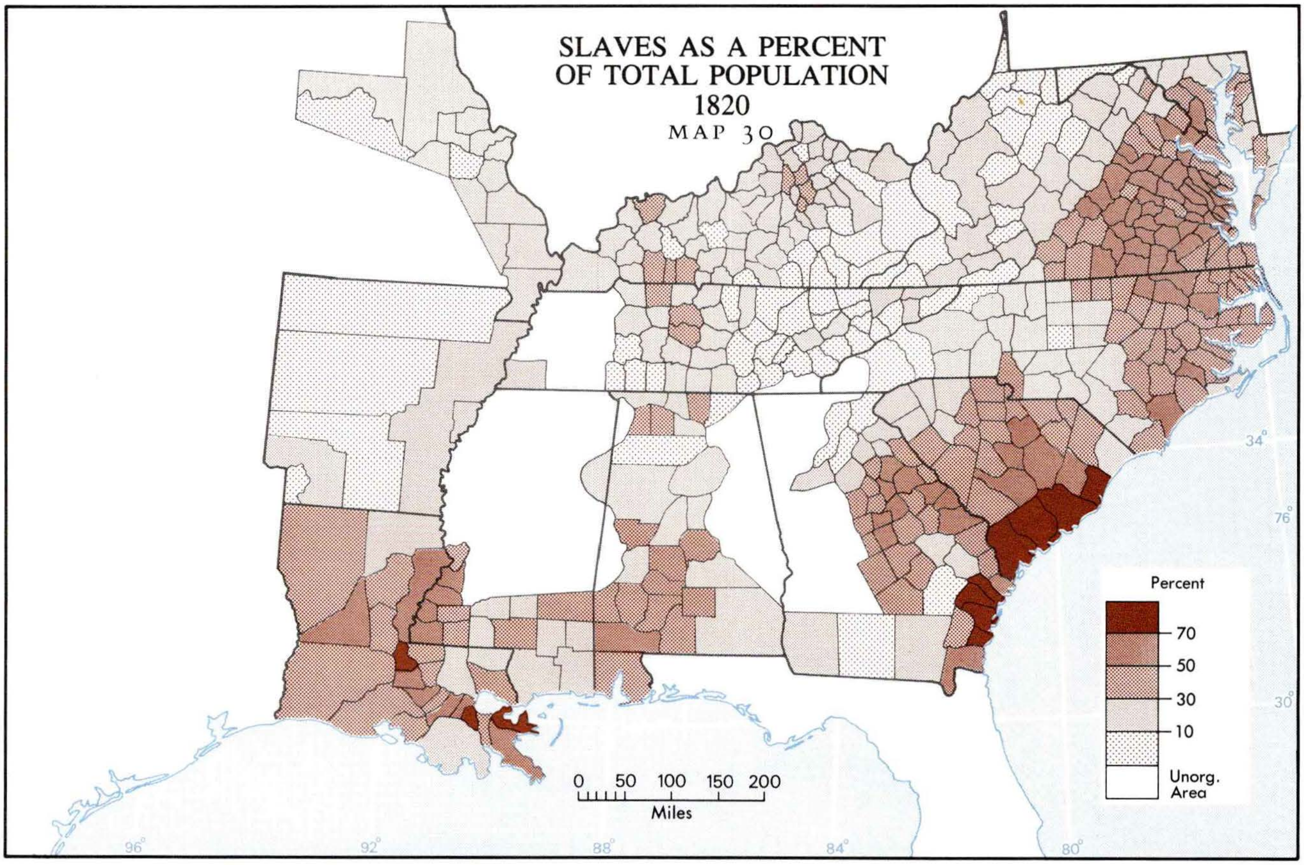
ginia and the rice counties of South Carolina and Georgia. As soon as new cash-crop areas opened up, slaves quickly became numerous. In the frontier areas of the west, especially in Louisiana and Mississippi, they often outnumbered whites. By 1830, slaves showed up in high numbers in those areas that were producers of either tobacco, rice, cotton, or sugarcane. As these crops, especially cotton, expanded in area, so did slavery. By midcentury all counties that had slave percentages that exceeded one-half were concentrated in eastern Virginia, South Carolina, central Georgia, the Black Belt, and the lower Mississippi valley. Scattered clusters also appeared in coastal Texas, the Red River valley of Louisiana, the Florida Panhandle, and coastal Georgia. It is clear that production of the four major cash crops employed the bulk of slave labor. In some areas slaves amounted to more than three-fourths of the population; by 1860 fifty counties reported populations of over 75 percent slave.


SLAVE POPULATION
1810
EACH DOT REPRESENTS 2,000 SLAVES
MAP 27
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°

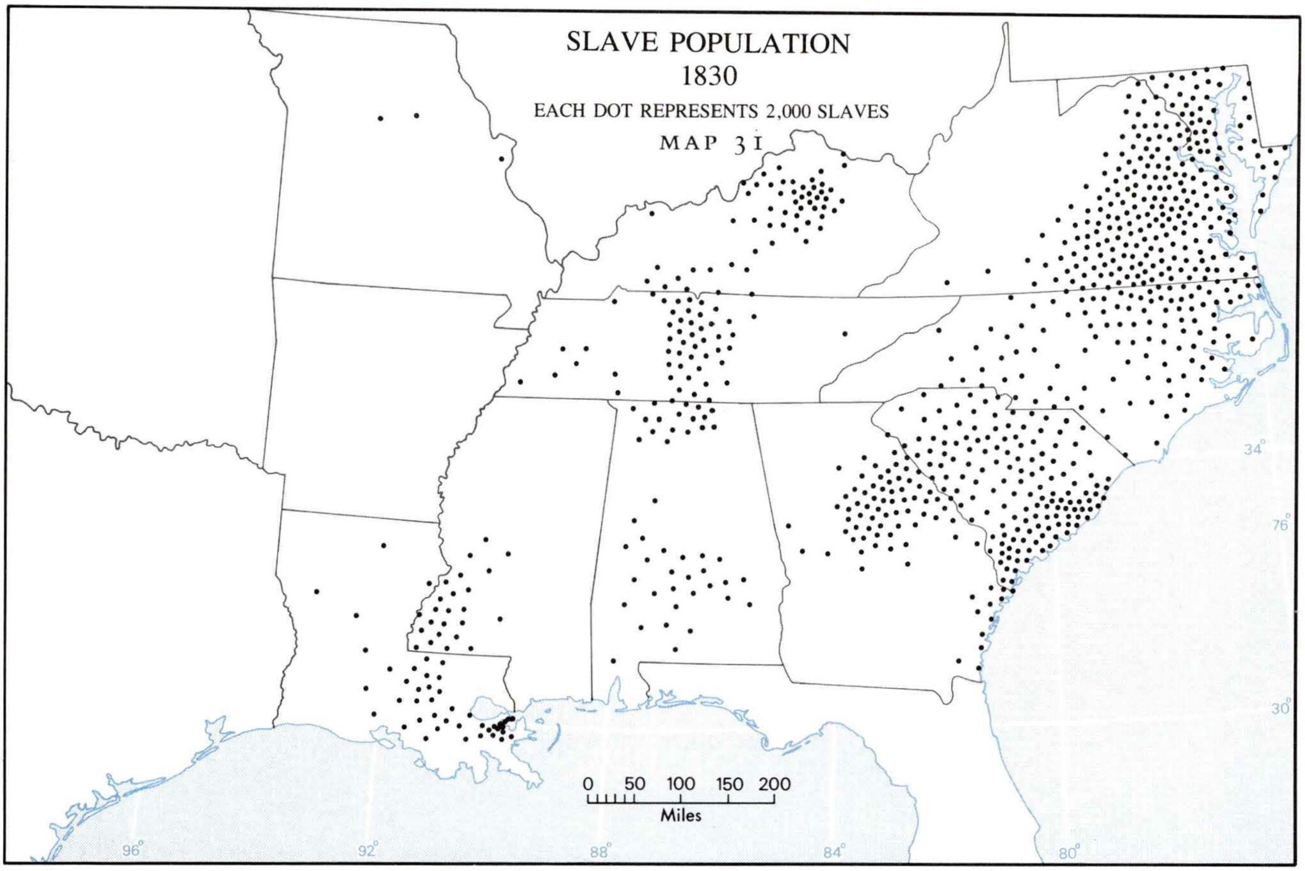

SLAVES AS A PERCENT OF TOTAL POPULATION
1810
MAP 28
Percent
70
50
30
10
Unorg. Area
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°

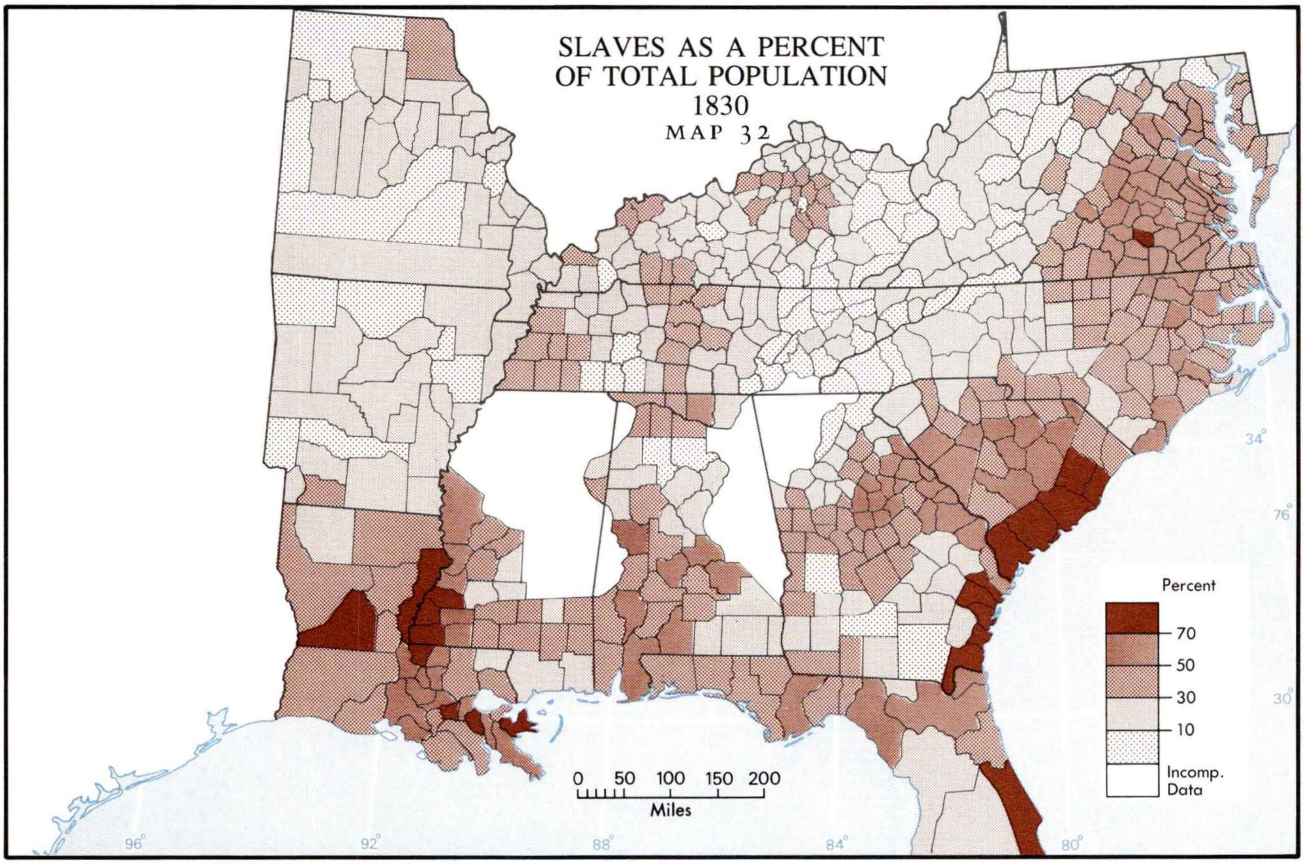


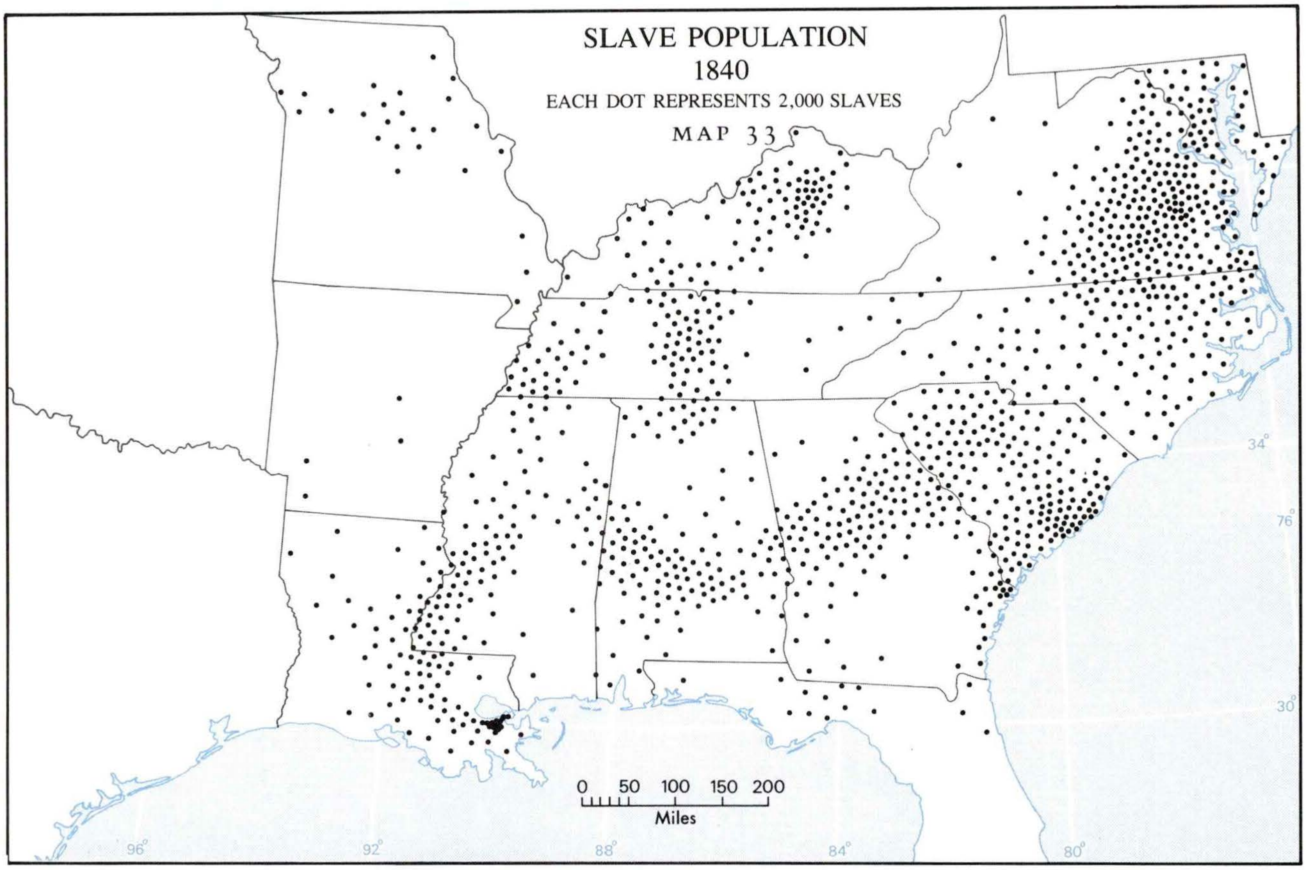
SLAVE POPULATION
1820
EACH DOT REPRESENTS 2,000 SLAVES
MAP 29

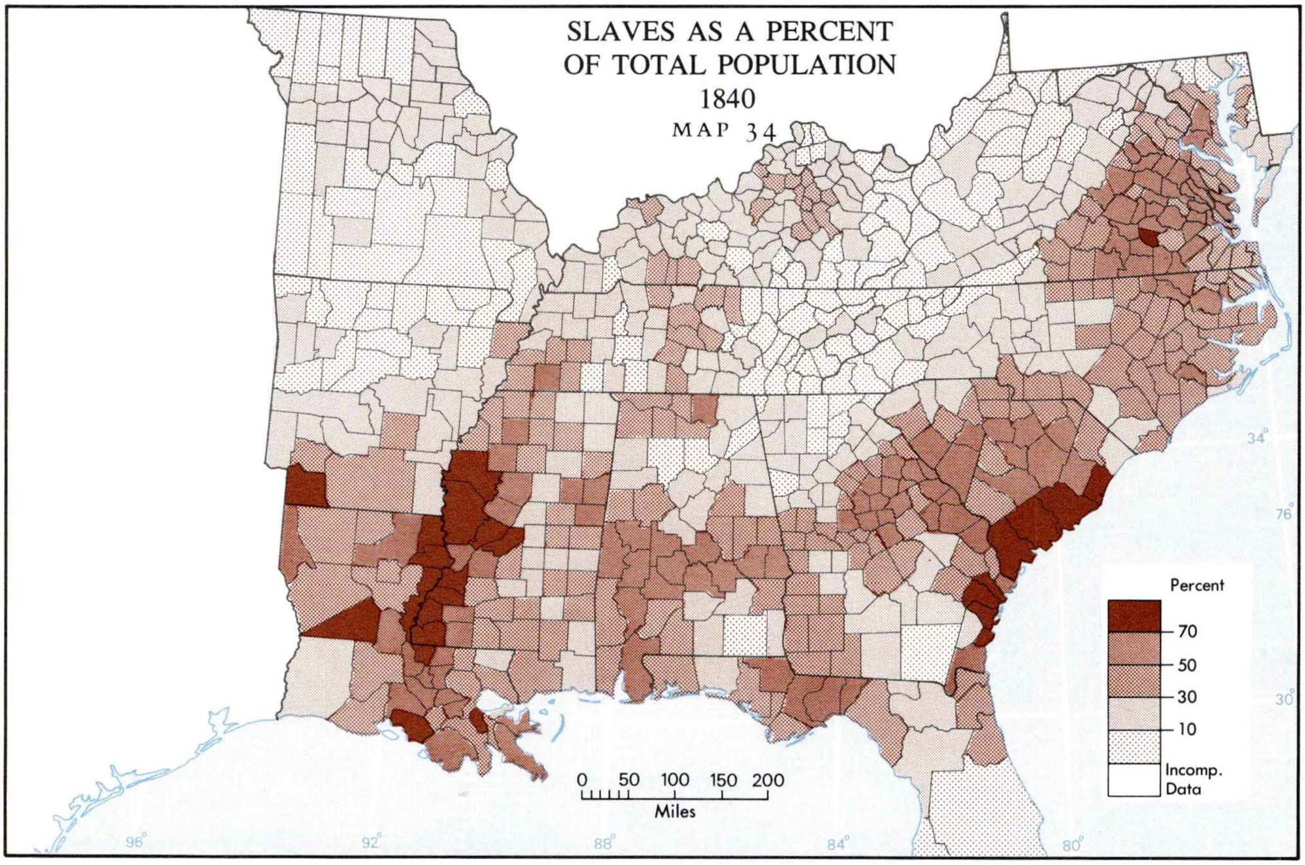


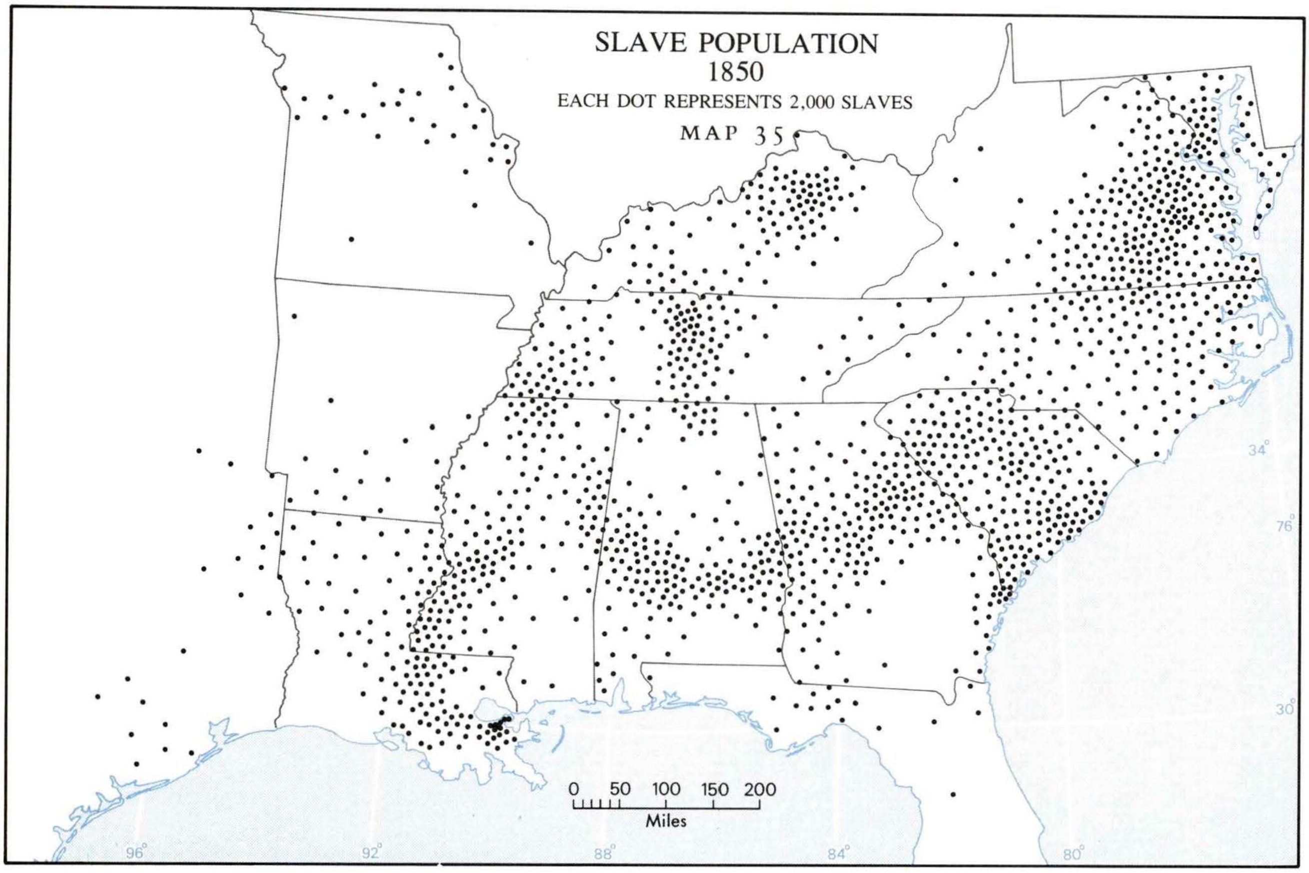
SLAVES AS A PERCENT
OF TOTAL POPULATION
1820
MAP 30


SLAVE POPULATION
1830
EACH DOT REPRESENTS 2,000 SLAVES
MAP 31

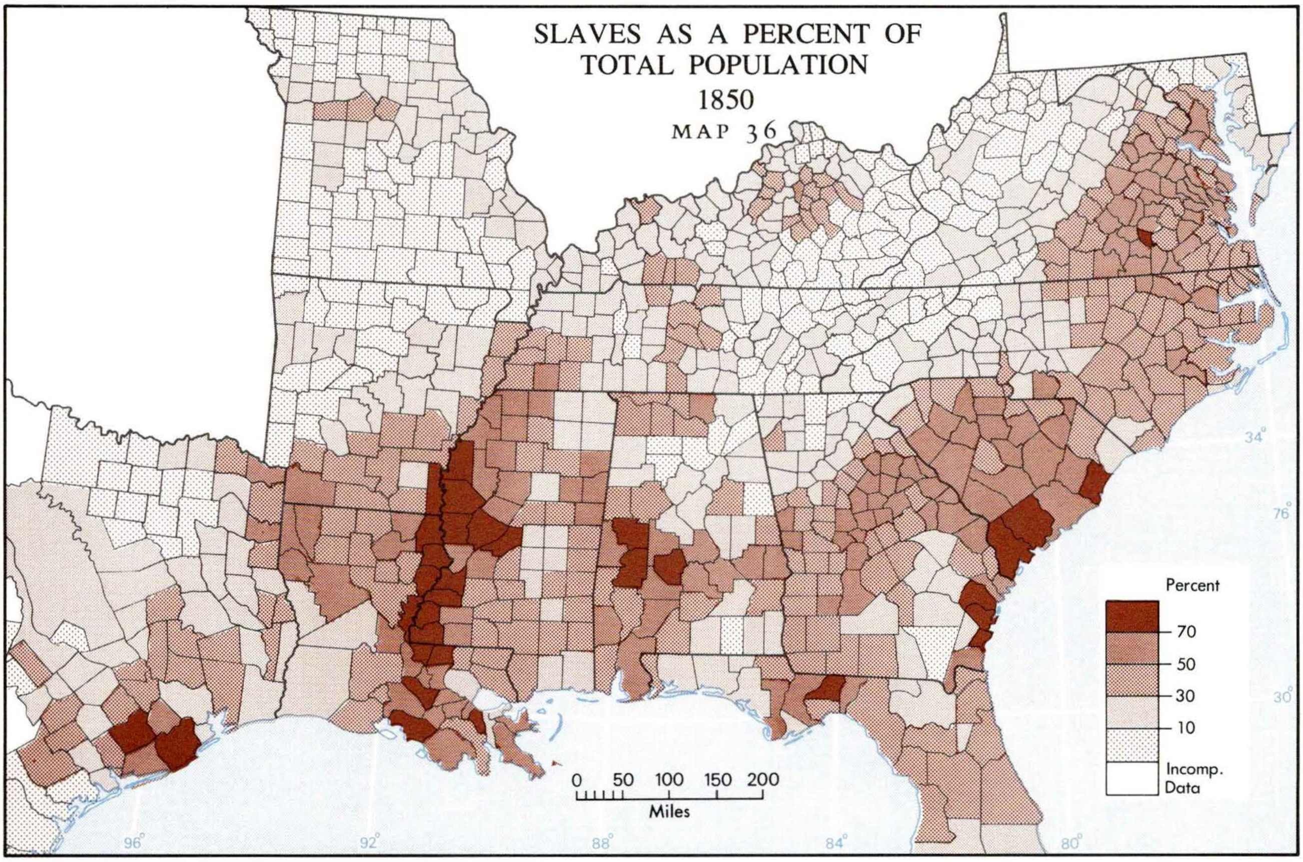

SLAVES AS A PERCENT
OF TOTAL POPULATION
1830
MAP 32


SLAVE POPULATION
1840
EACH DOT REPRESENTS 2,000 SLAVES
MAP 33
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°

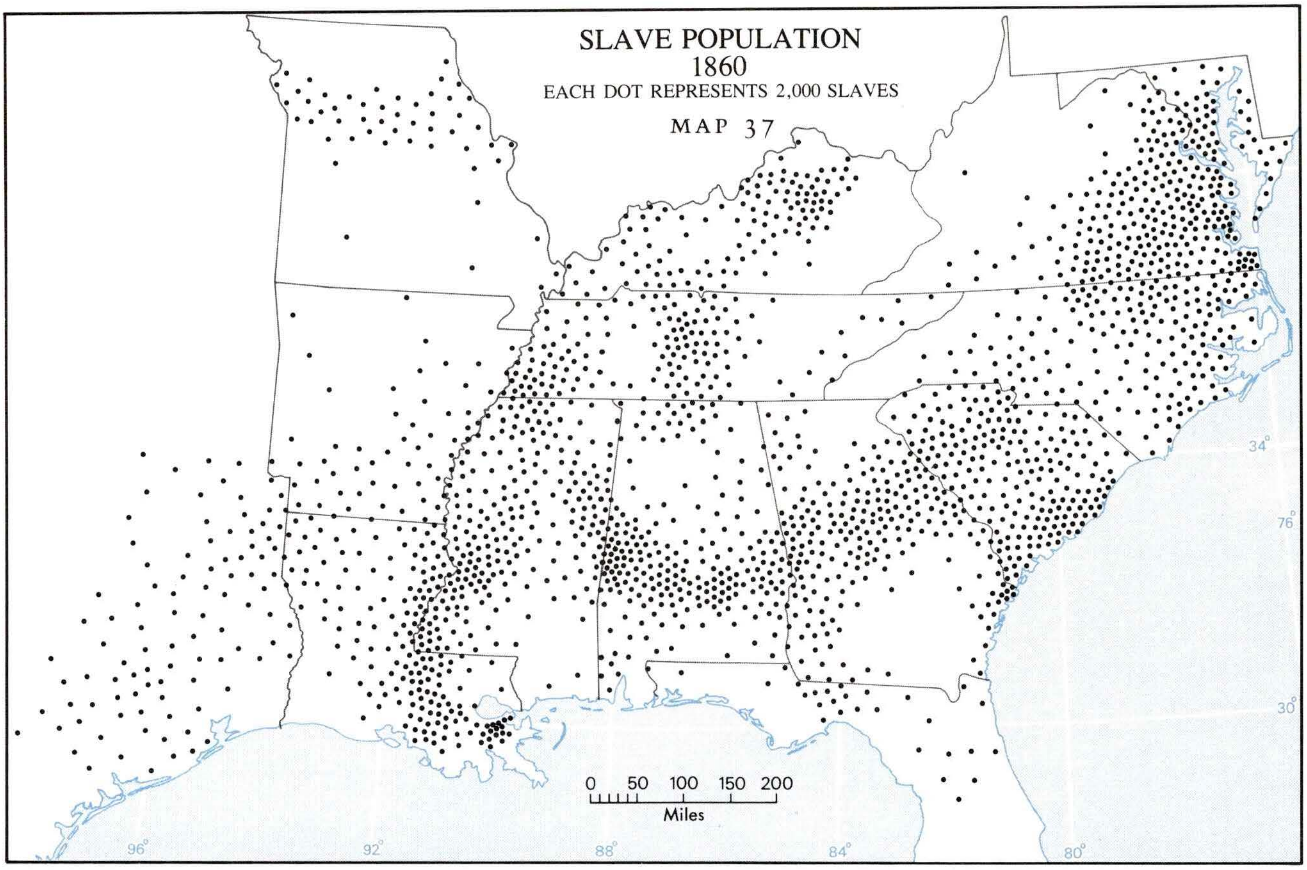

SLAVES AS A PERCENT
OF TOTAL POPULATION
1840
MAP 34
Percent
70
50
30
10
Incomp. Data
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°

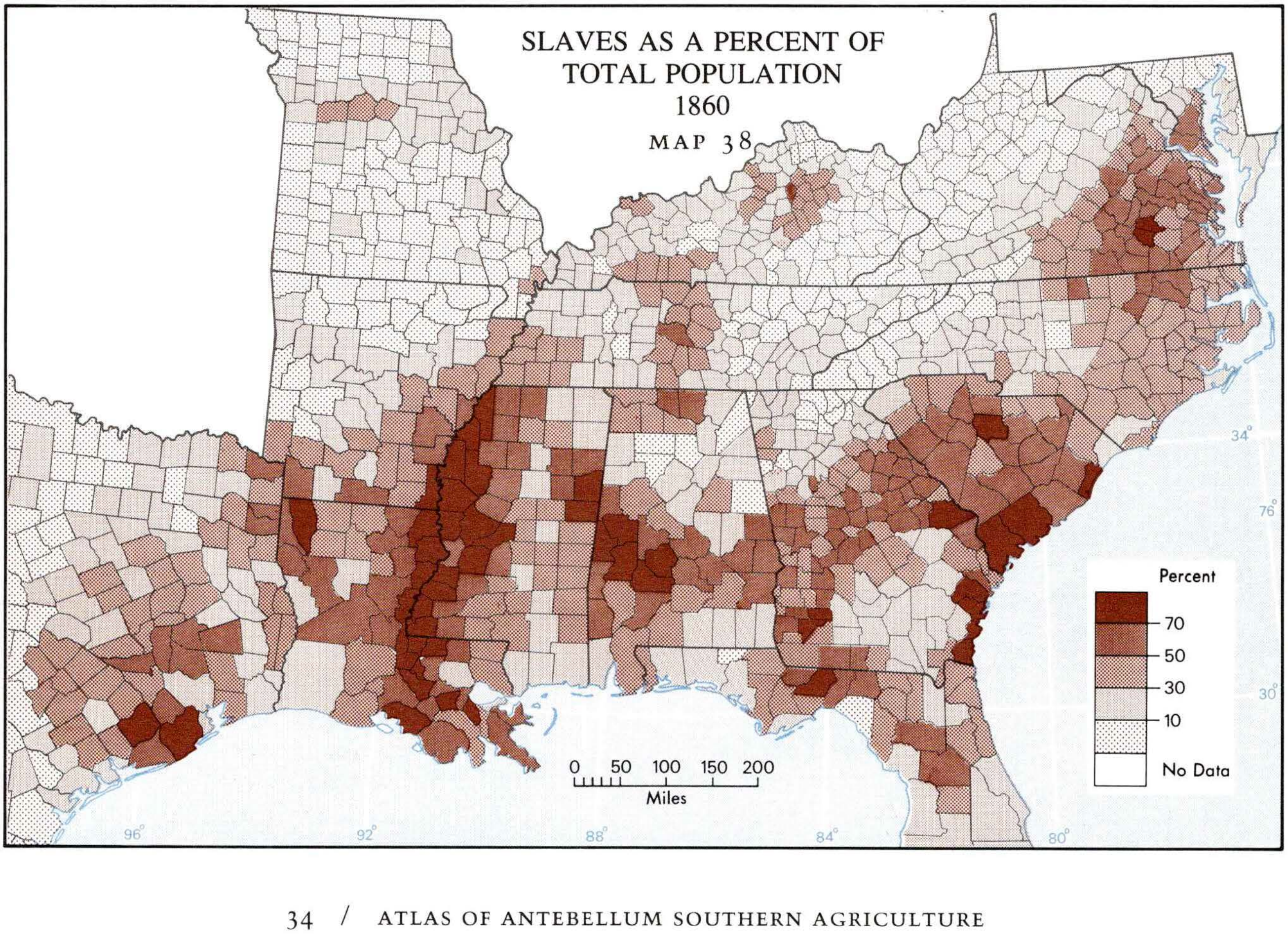


SLAVE POPULATION
1850
EACH DOT REPRESENTS 2,000 SLAVES
MAP 35



SLAVES AS A PERCENT OF TOTAL POPULATION
1850
MAP 36


SLAVE POPULATION
1860
EACH DOT REPRESENTS 2,000 SLAVES
MAP 37
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°


SLAVES AS A PERCENT OF
TOTAL POPULATION
1860
MAP 38
Percent
70
50
30
10
No Data
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°

IV
The Land and Labor System

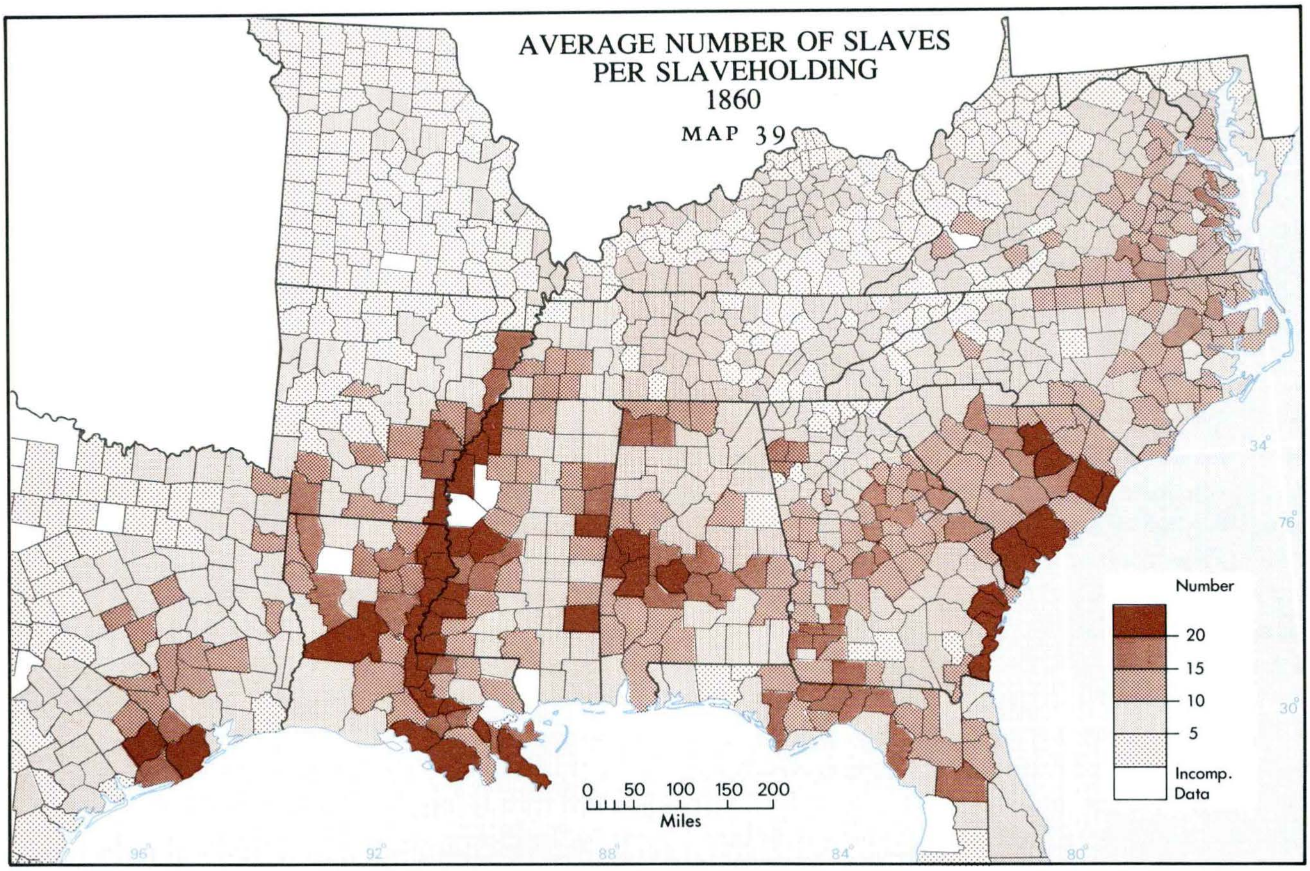
The element most often identified as a characteristic of southern agriculture is slavery. As an institution, slavery was universal in the area; by 1860 only a dozen or so counties reported no slaves at all, and most of these counties were in the sparsely populated part of Texas. Yet the vast majority of slaves were confined to about one-third of the area. Furthermore, only a minority of whites owned slaves, and most slaveholders owned but a few. The census of 1860 reported that about 50 percent of the slaveholders owned only one slave, about 55 percent owned no more than five, 72 percent owned fewer than ten slaves, and about 88 percent of the slaveholders owned fewer than twenty slaves. Despite the fact that nearly three-fourths of the holders owned under ten slaves, the average for the entire area was 10.3 slaves per holding, suggesting that significant numbers of owners had large holdings.

Map 39 shows the average number of slaves per slaveholding, while Maps 41 and 42 show the proportion of owners holding slaves in units of nine or fewer and fifty or more, respectively. Finally, Map 40 reports the proportion of slaves that were held in units of nine or fewer. Maps 39, 41, and 42 deal with the size of slaveholding units, while Map 40 gives some idea of the proportion of slaves held in small units.

The distributions show clearly the importance of slaves in the Deep South. Maps 39 and 42 reveal the areas in which large slaveholdings were the rule, and their patterns compare favorably with later maps of large landholdings. The major areas of large slaveholdings correspond closely to those producing cash crops, but the bulk of the high values were in the Black Belt, the Mississippi River valley, and coastal South Carolina and Georgia. Conversely, Maps 40 and 41 show clearly just where large-scale slave agriculture was not. High values (note that the categories differ on all four maps) are found in the hill and mountain lands, poorer soil areas, and western Texas.

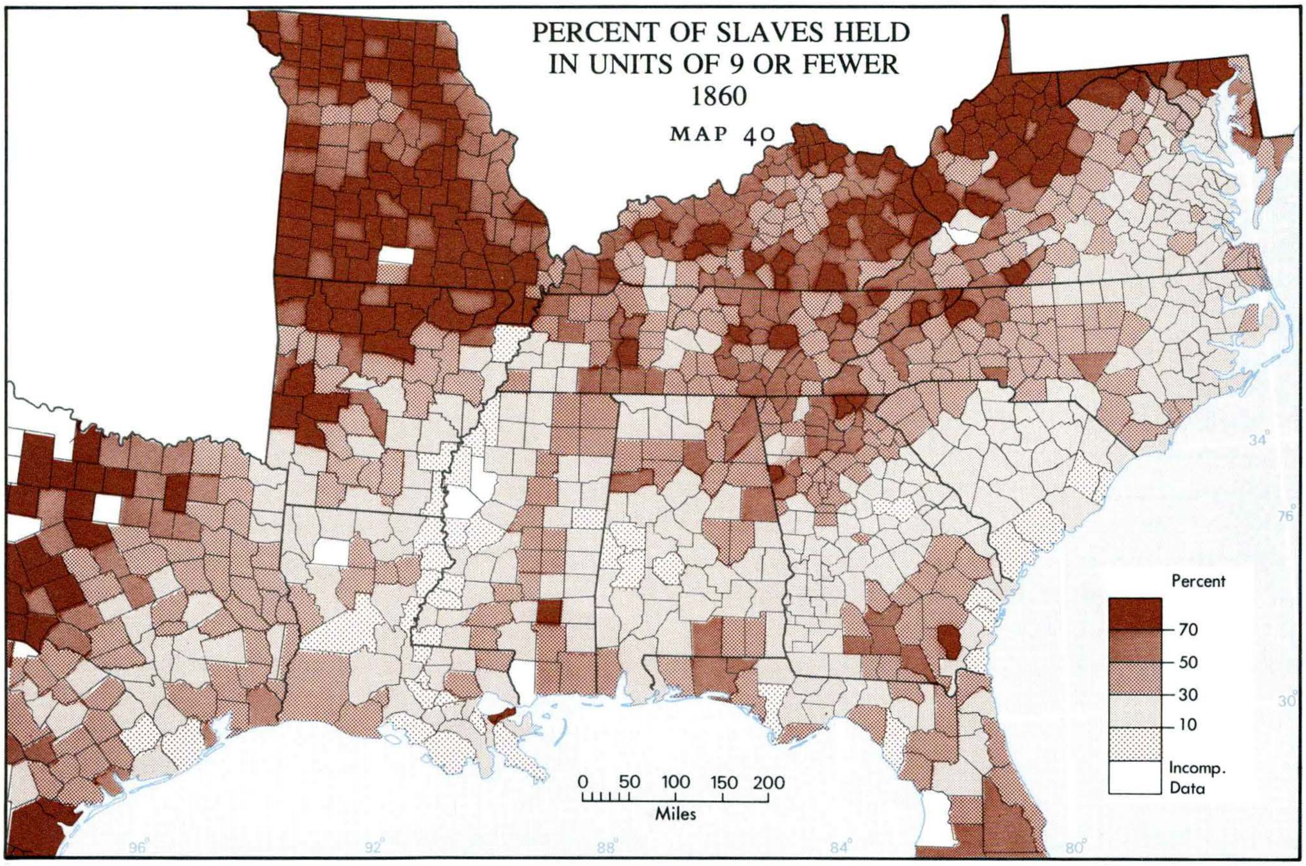
Data on the land system were not reported in the census until 1850, when the number of acres of improved and unimproved land in farms was given for each county; the count of farms by size was not published until 1860. Maps 43 and 44 depict the amount of farmland as a percentage of county area in 1850 and 1860. They show a marked concentration in the east, where settlement was densest, but even as late as 1860 a large proportion of land was not counted as farmland. The censuses of 1850 and 1860 reported both improved and unimproved acreage, and Maps 45 and 46 depict improved land as a percentage of all farmland. But since the total farmland reported was less than the area of the county, improved land sometimes was but a fraction of all land in the county. Maps 47 and 48 depict the percentage of county area improved. The more settled lands of the eastern South showed high values, indicating a more mature agriculture in which the relatively dense settlement and longer tenure resulted in more cleared land.

An important measure of agriculture is the scale of operation. Fortunately, we have data on landholding size, and Map 49 shows the average size of holding in 1860, while Map 50 depicts the average number of improved acres per farm. Maps 51 and 52 show the distribution of two key categories—namely, the percent of farms smaller than fifty acres and the percentage five hundred acres and larger. Like the maps of small and large slaveholdings (Maps 41 and 42), each is the reverse of the other. The highest categories of Map 52 outline clearly what could be called the plantation South.



AVERAGE NUMBER OF SLAVES PER SLAVEHOLDING
1860

MAP 39

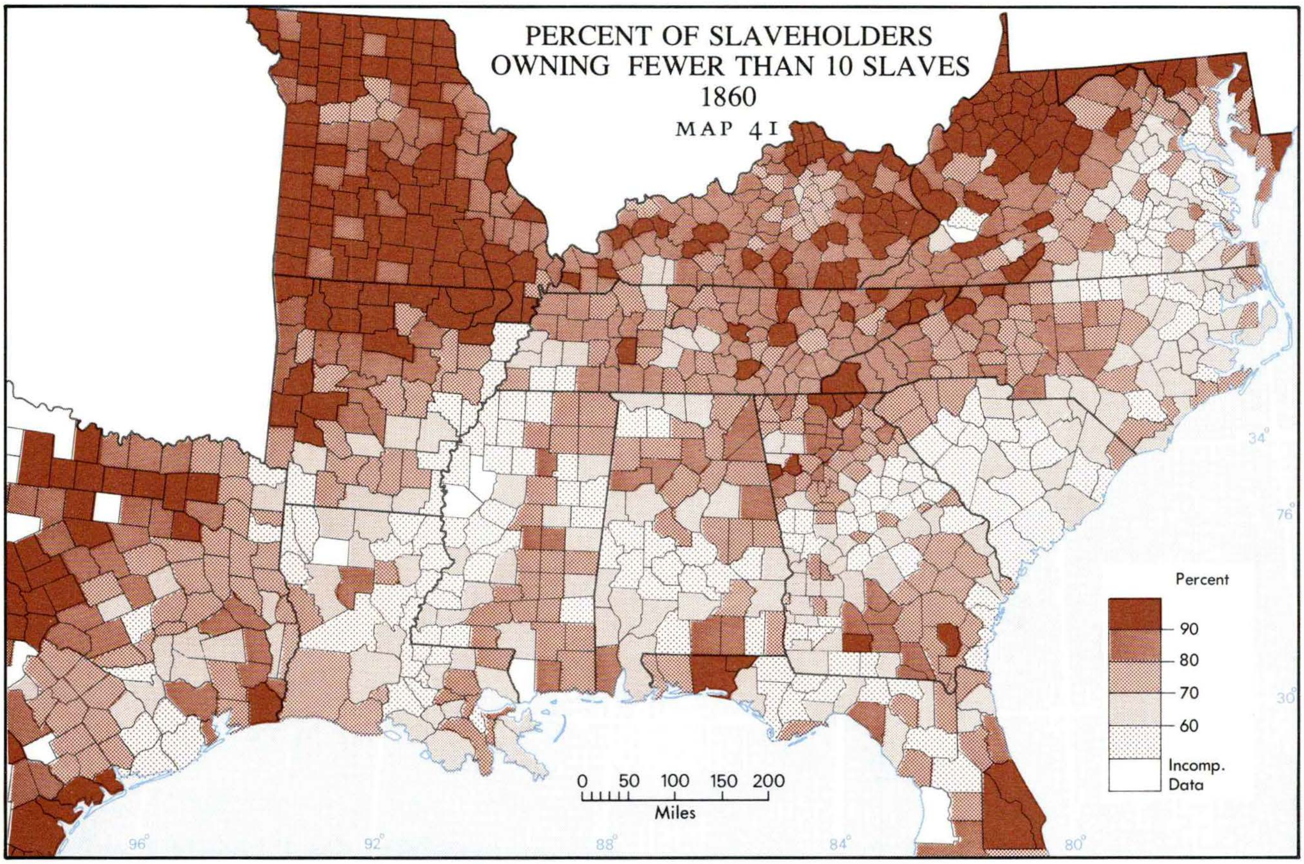


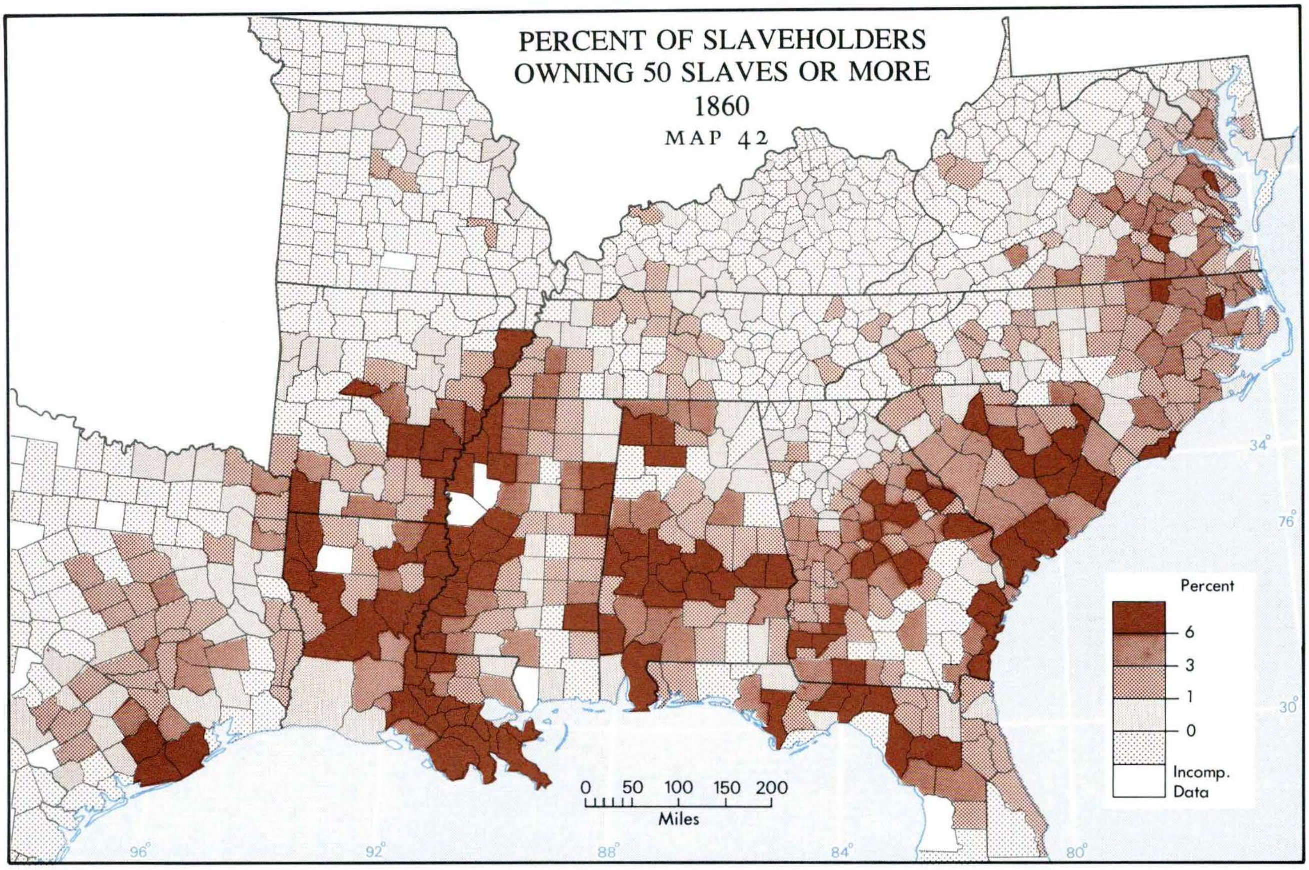
PERCENT OF SLAVES HELD IN UNITS OF 9 OR FEWER
1860

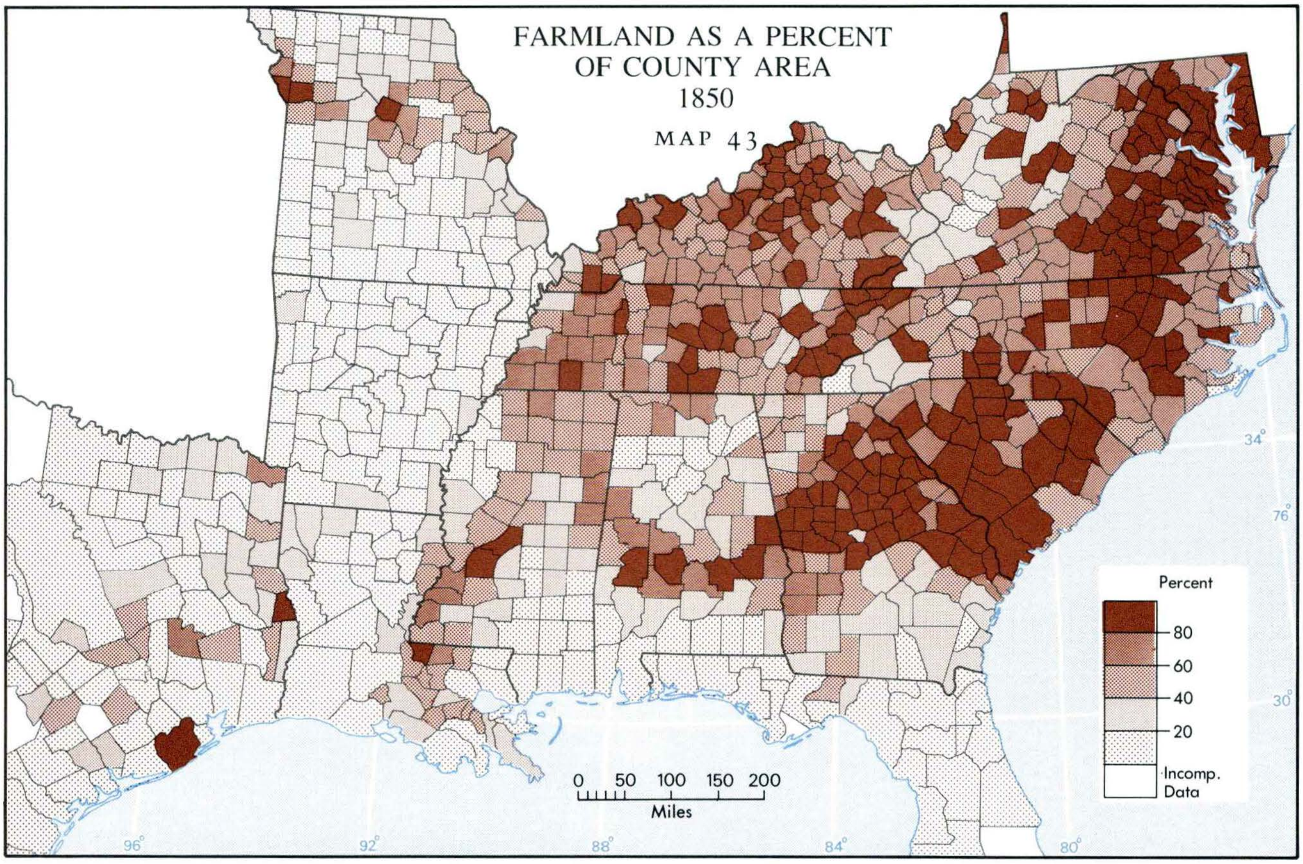
MAP 40

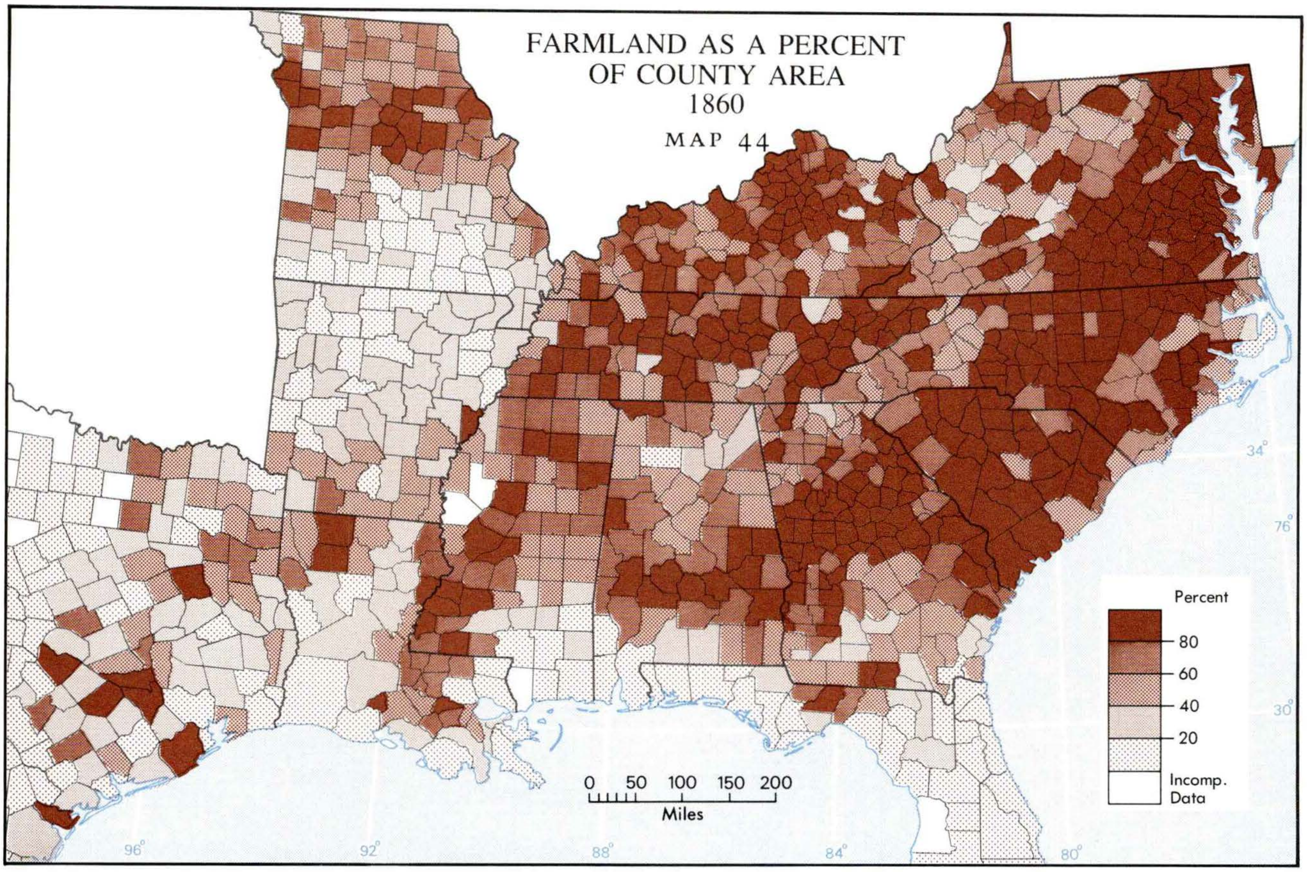
It corresponds closely to the cash-crop regions, but the counties showing the highest percentages (up to 50 percent) were in the lower Mississippi valley. Map 51 shows where small farms were numerous, that is, in the hill lands and lesser producing areas.

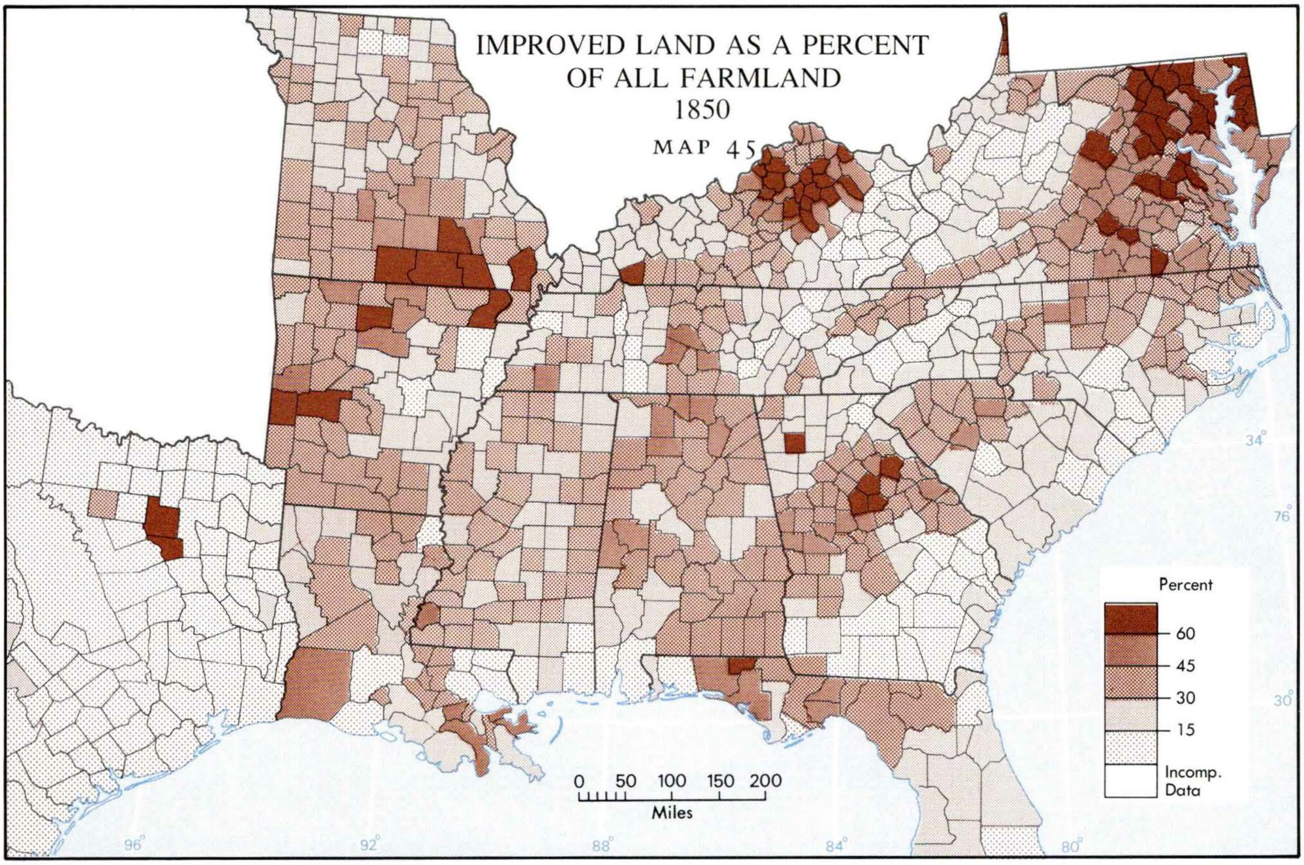
Finally, land value is a measure of agricultural intensity in that it implies that highly productive land would show greater value than poor land. Map 53 shows the average value of farmland in the county, which reflects both productivity and farm size, while Map 54 indicates the total value of farmland in the county. Map 54 is calculated on a "per mile" basis in order to eliminate variations introduced by county size.

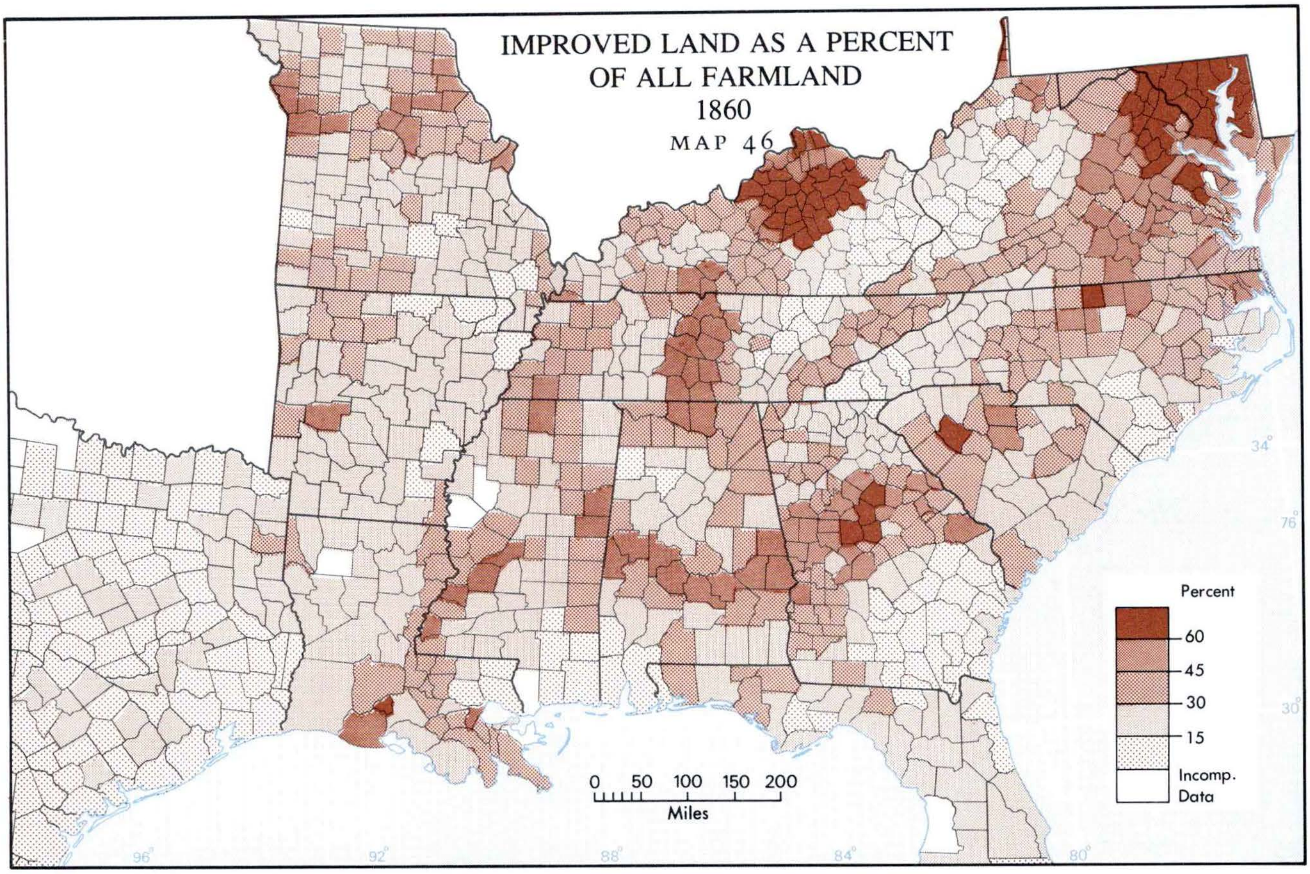



PERCENT OF SLAVEHOLDERS OWNING 50 SLAVES OR MORE
1860
MAP 42
Percent
6
3
1
0
Incomp. Data
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°


FARMLAND AS A PERCENT OF COUNTY AREA
1850
MAP 43
Percent
80
60
40
20
Incomp. Data
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°

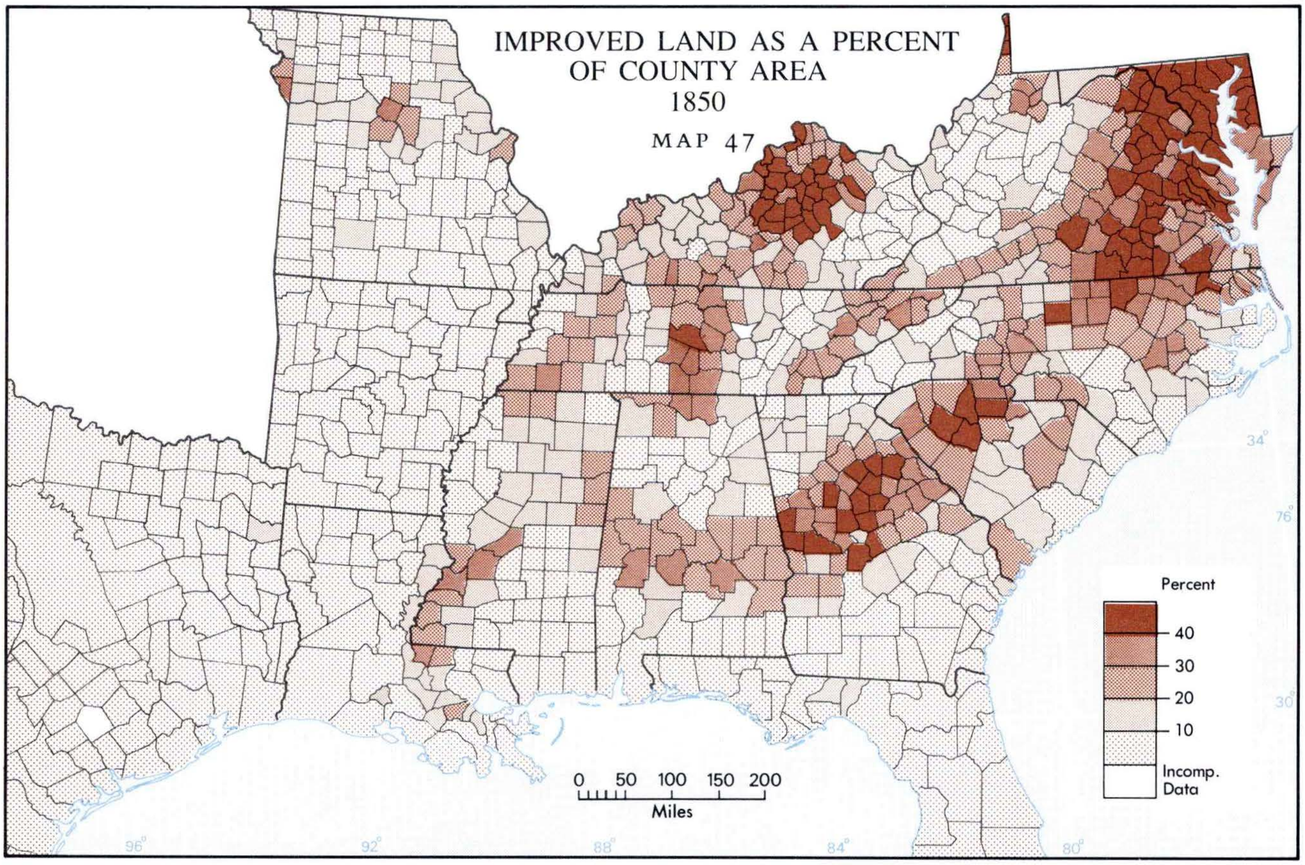

FARMLAND AS A PERCENT
OF COUNTY AREA
1860
MAP 44
Percent
80
60
40
20
Incomp. Data
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°


IMPROVED LAND AS A PERCENT
OF ALL FARMLAND
1850
MAP 45
Percent
60
45
30
15
Incomp. Data
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°



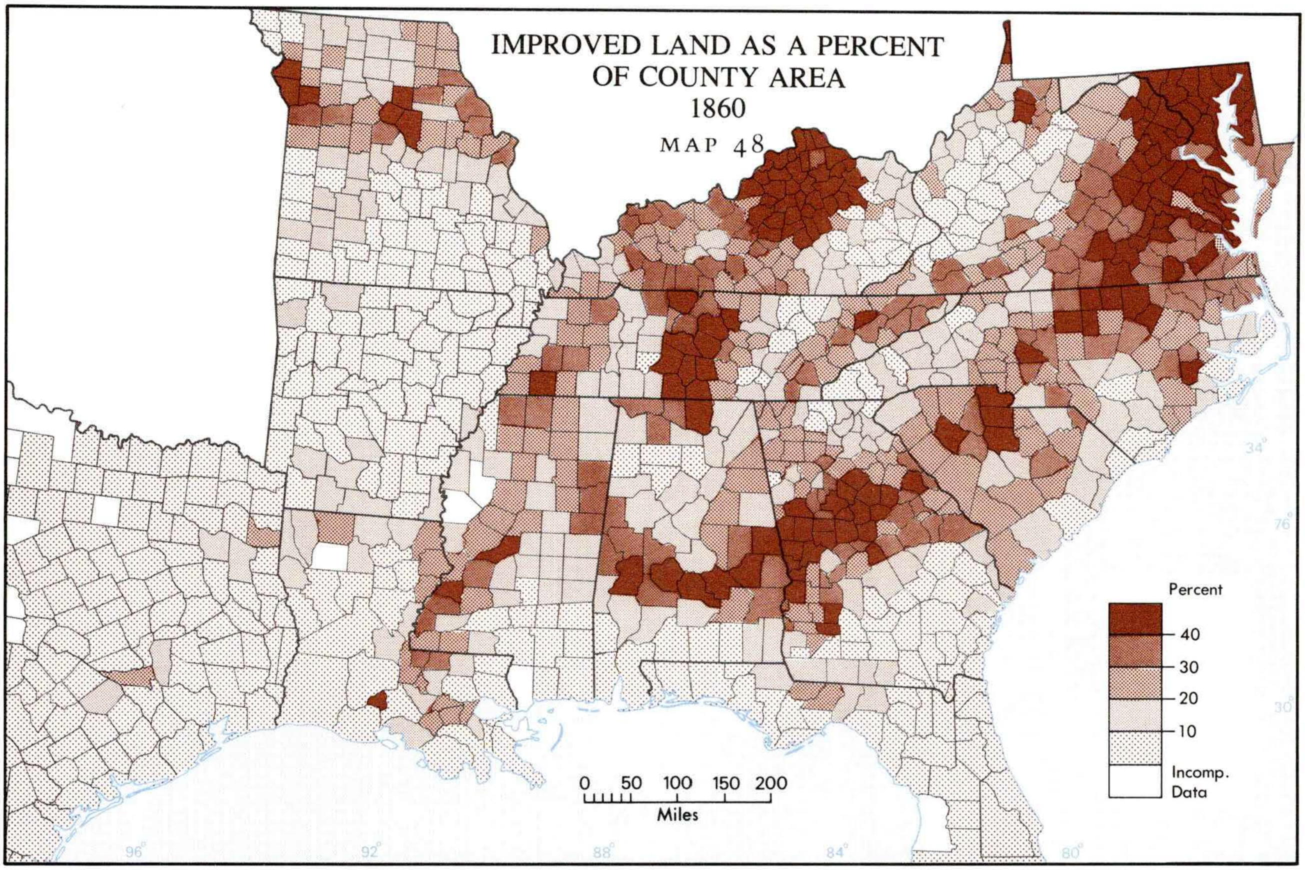
IMPROVED LAND AS A PERCENT OF ALL FARMLAND 1860

MAP 46



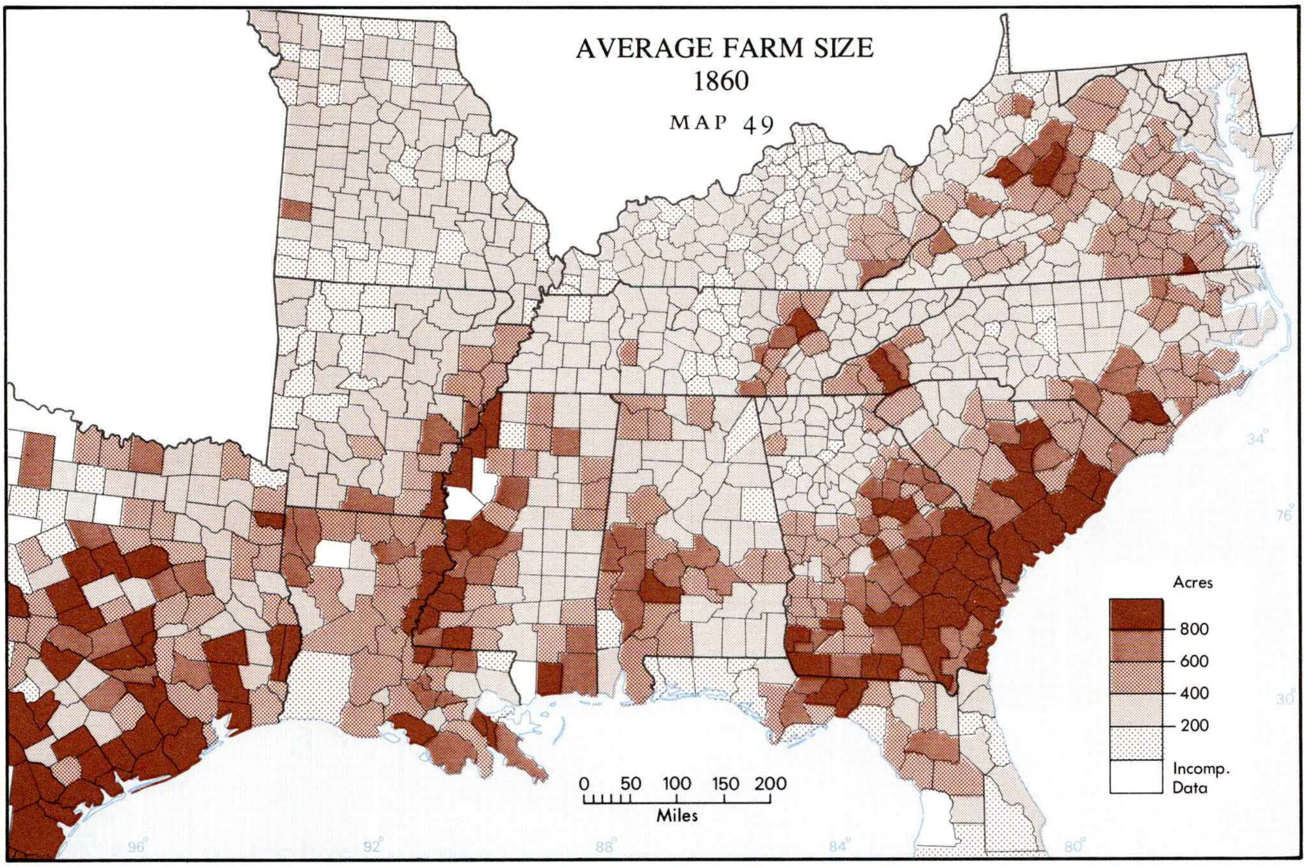
IMPROVED LAND AS A PERCENT OF COUNTY AREA 1850

MAP 47



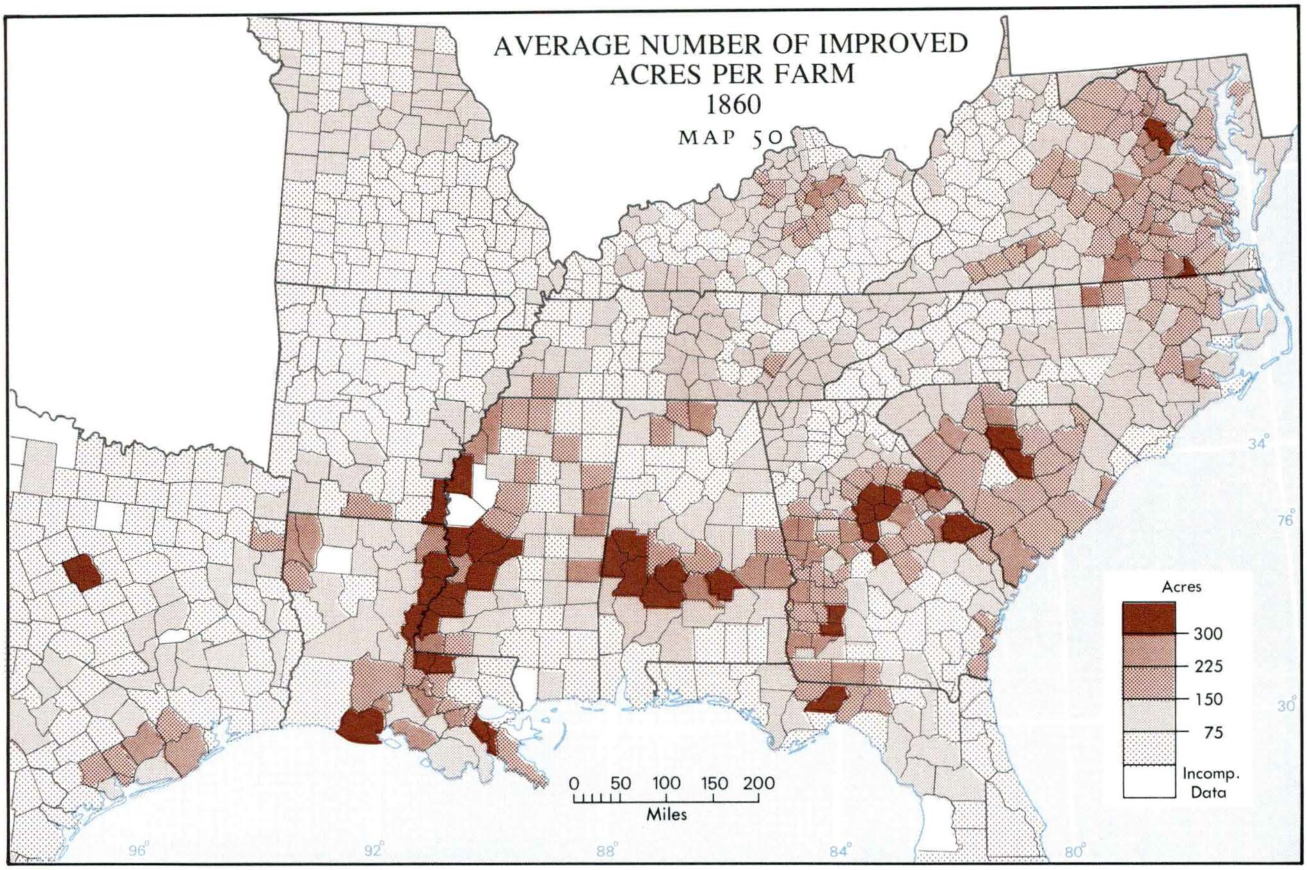
IMPROVED LAND AS A PERCENT OF COUNTY AREA 1860

MAP 48



AVERAGE FARM SIZE 1860

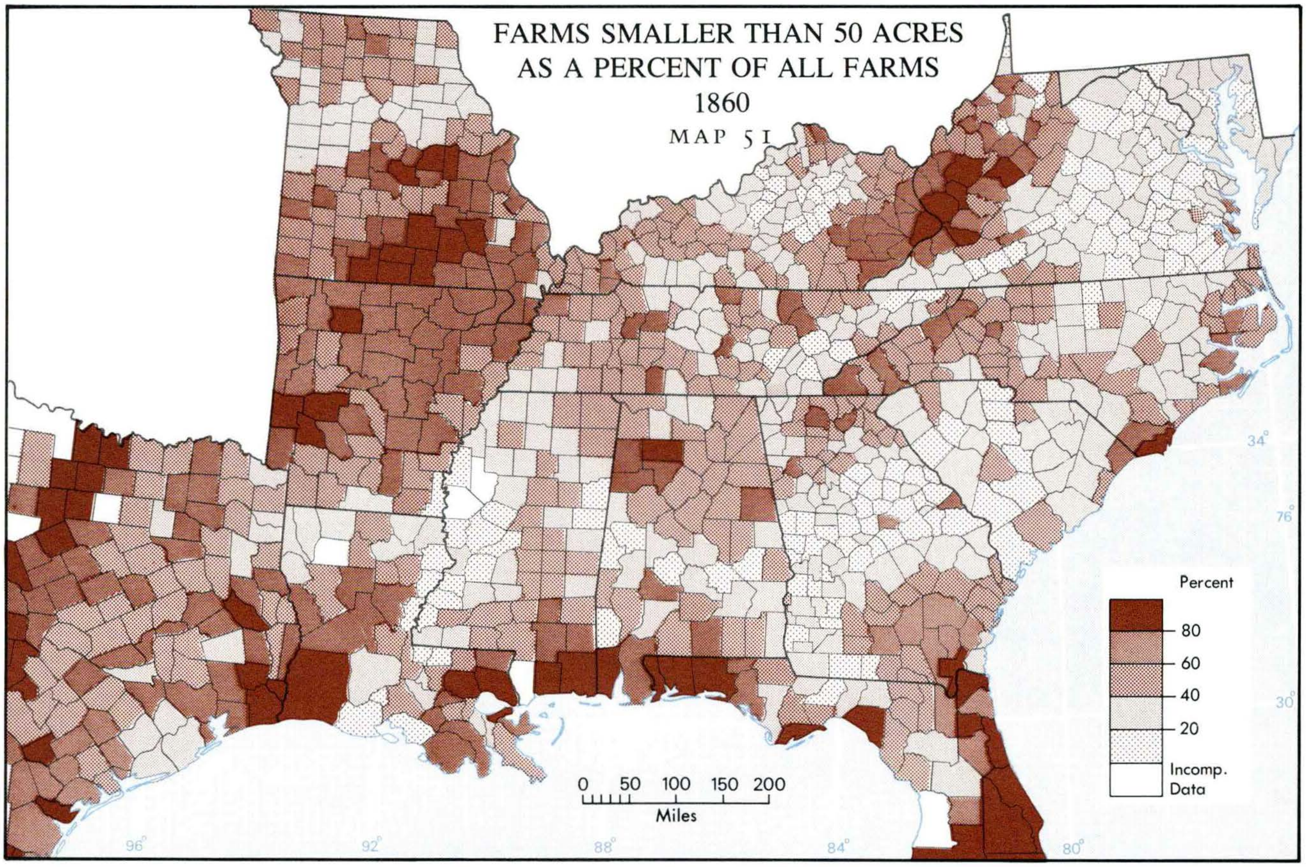
MAP 49



AVERAGE NUMBER OF IMPROVED ACRES PER FARM

1860

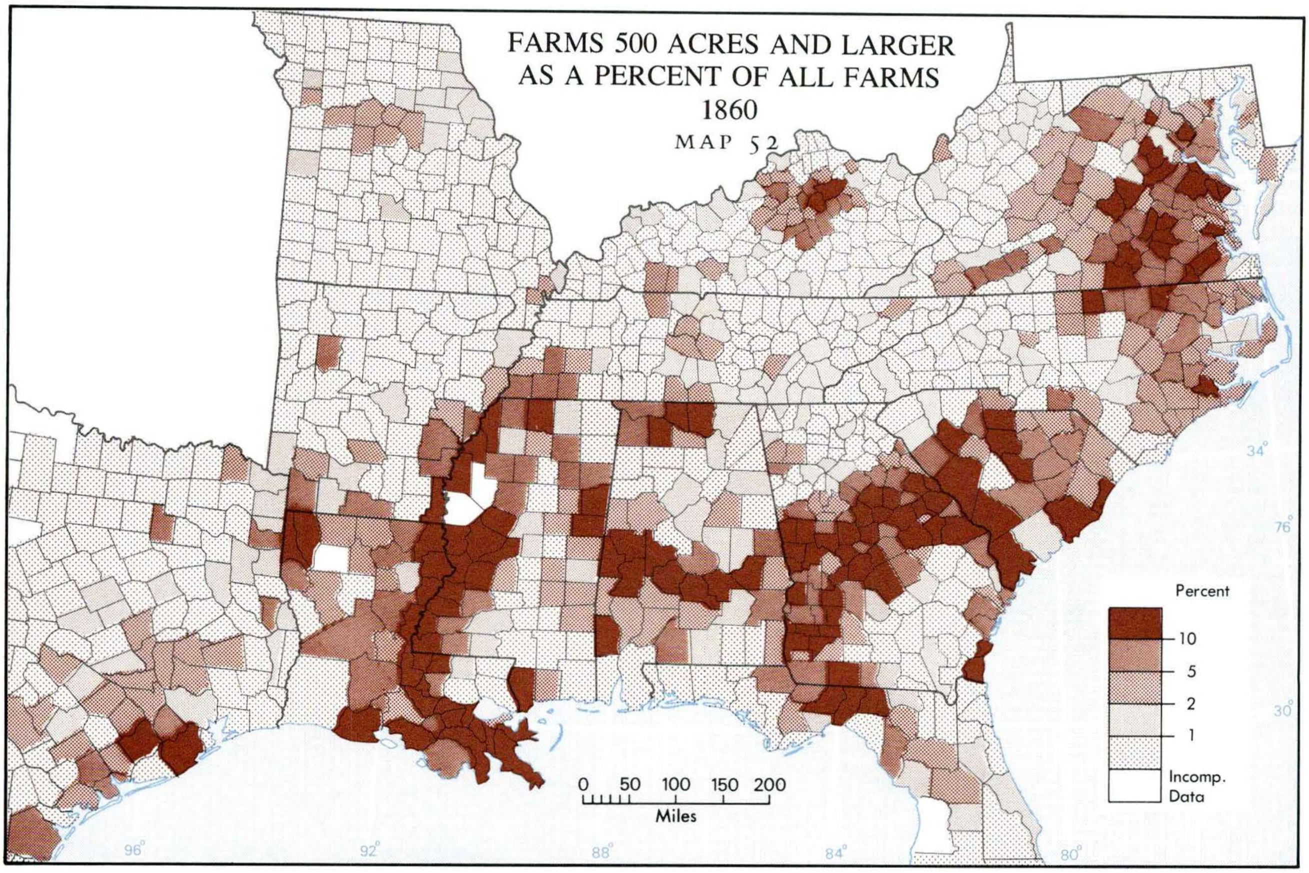
MAP 50



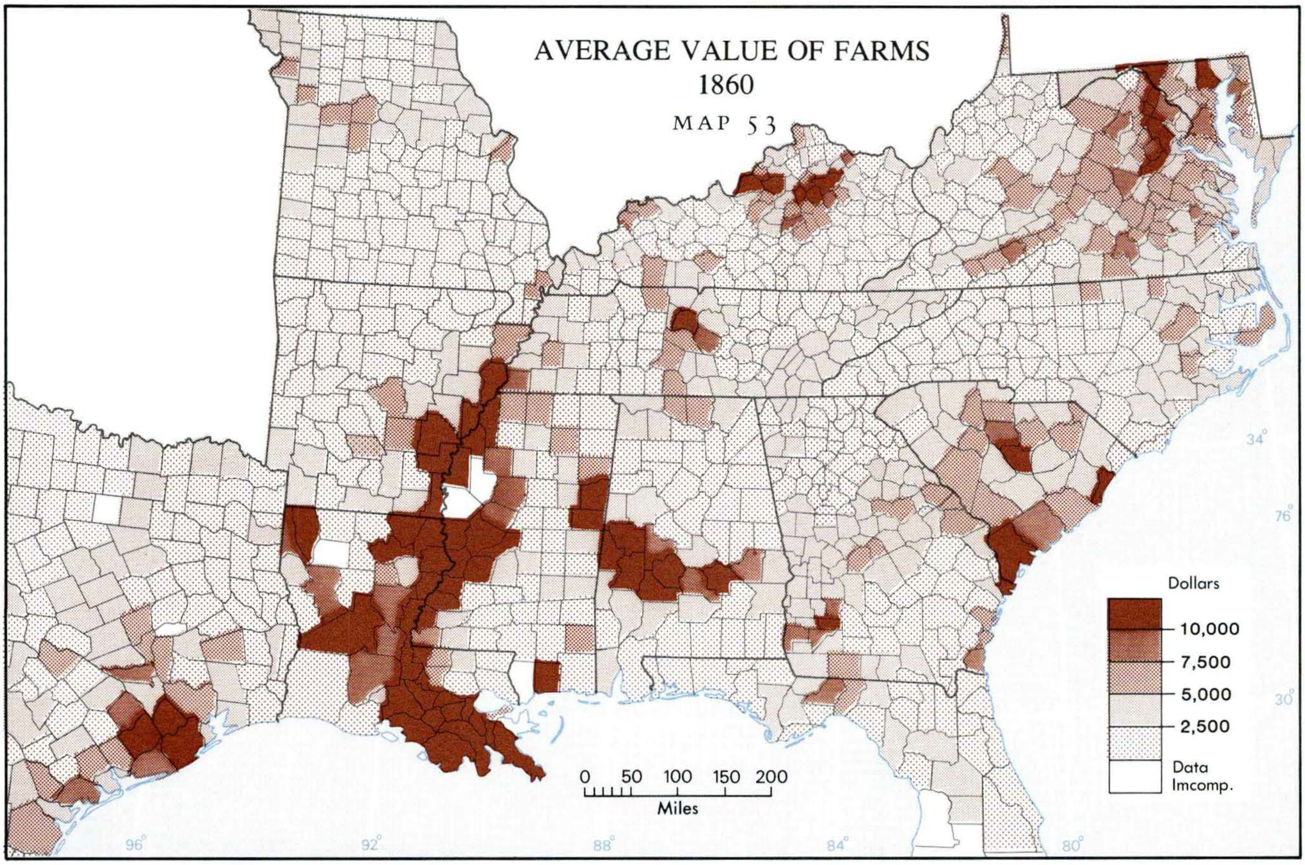
FARMS SMALLER THAN 50 ACRES AS A PERCENT OF ALL FARMS

1860

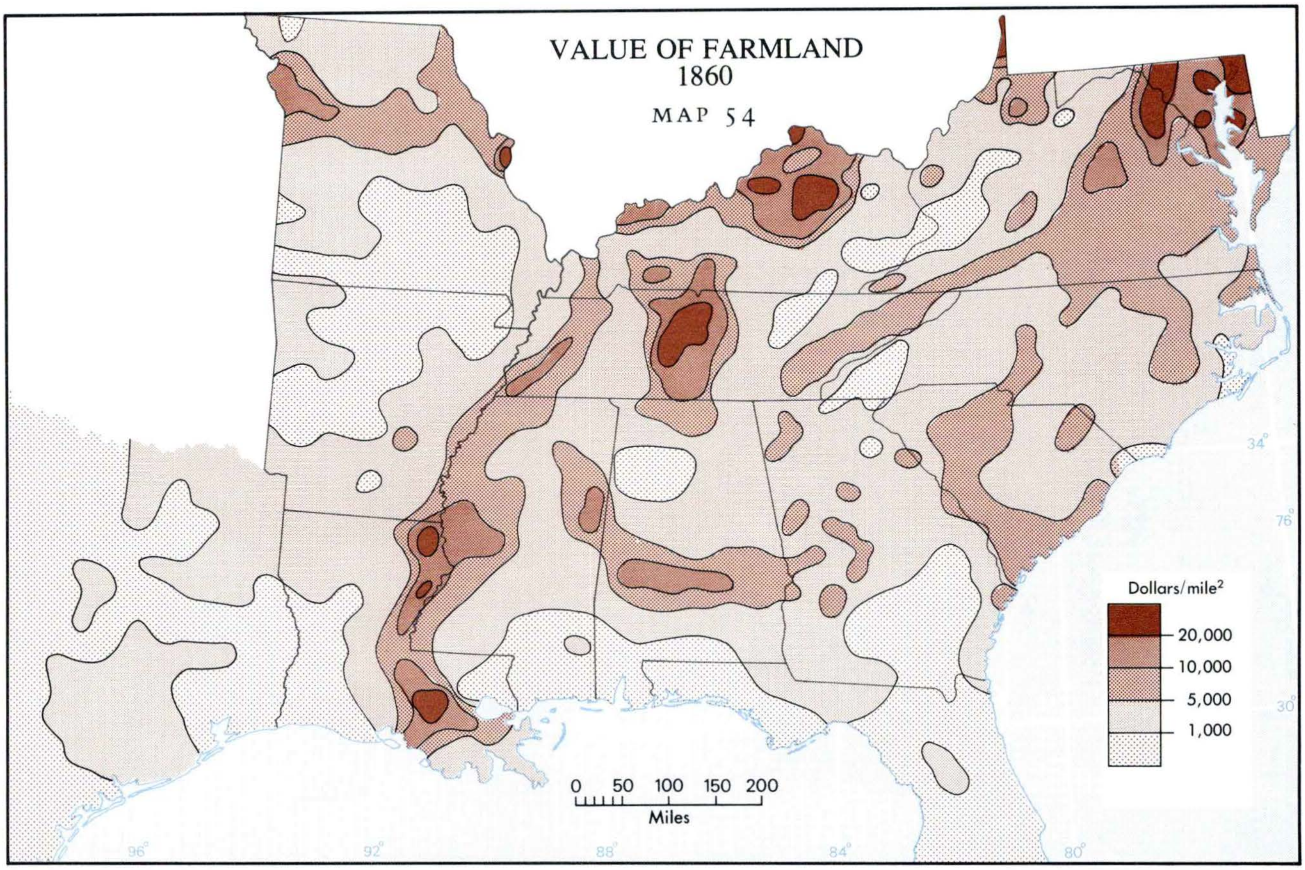
MAP 51


FARMS 500 ACRES AND LARGER AS A PERCENT OF ALL FARMS 1860

MAP 52


AVERAGE VALUE OF FARMS 1860

MAP 53



VALUE OF FARMLAND
1860

MAP 54

V
Livestock

The South had more than its share of the nation's livestock, which were found throughout the area. Maps 55 through 75 show livestock in the years 1840 to 1860, and their numbers and distributions varied considerably among the species.

Cattle were found all over the South, from the sparsely settled pine forests near the coasts to the hills of western Kentucky. Cattle had become important in the eastern South by the late eighteenth century, and their numbers increased markedly through time. Forest grazing existed in the Carolinas, Georgia, and Florida soon after initial settlement, and the practice spread in a broad belt inland from the gulf coast, eventually merging with a similar system moving northward from Mexico. Herding was practiced by Anglo, Spanish, French, and Indian groups, and where conditions were especially favorable huge herds existed. These herders remained important throughout the antebellum period, though their relative importance declined as plantations and farms devoted more land to crops. Large numbers of cattle were found all over, but by 1860 Texas was beginning to emerge as the premier cattle state.

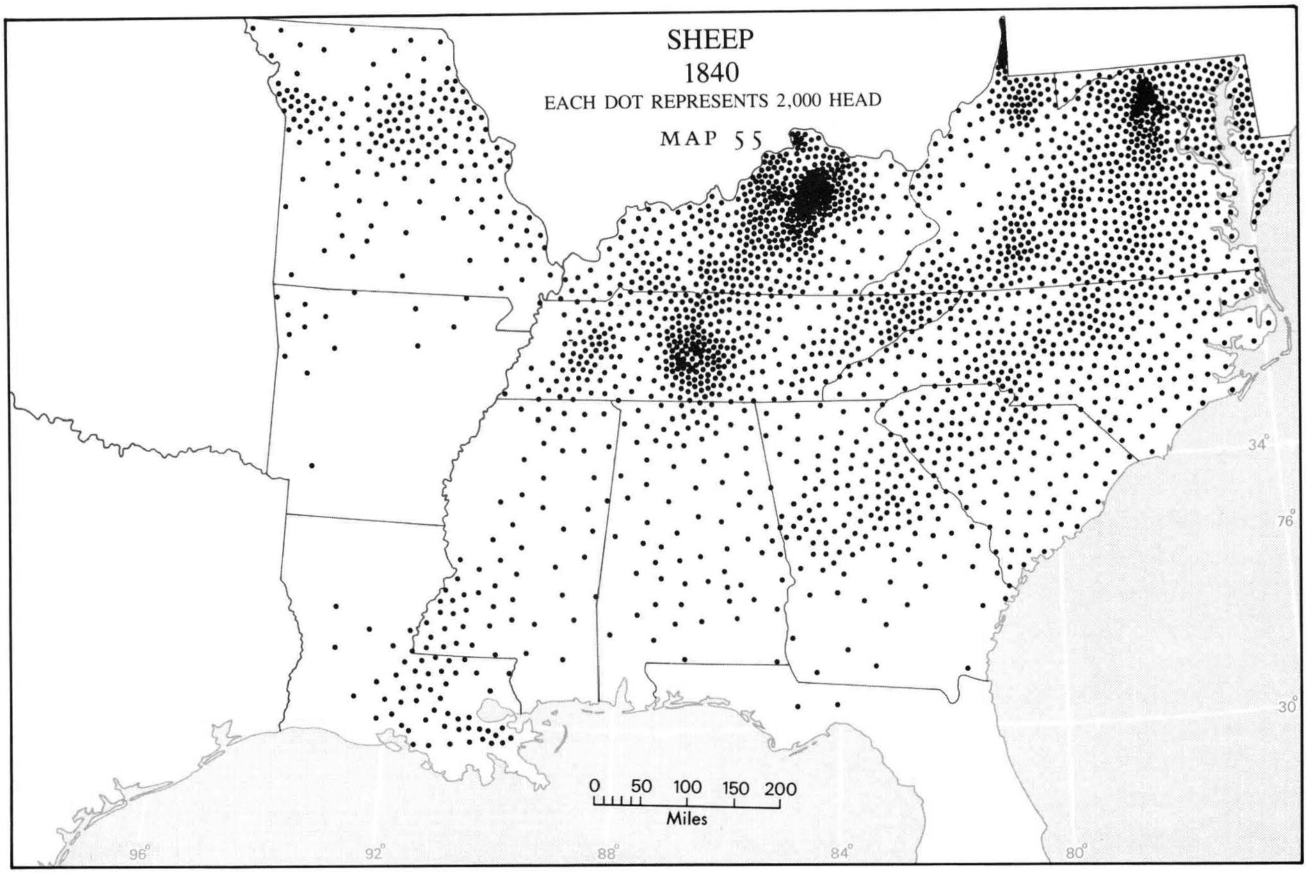
Sheep were much less common than cattle, and their distribution was uneven. They were found in higher numbers in Maryland, Virginia, and the Appalachians, especially the Bluegrass and Nashville basins. Sheep were uncommon in the lower South in 1840, but increased in numbers during the next twenty years. At no time did they become as important as cattle or swine. The maps of sheep may be compared directly to those of cattle, for on both the dot value (2,000 animals per dot) is the same.

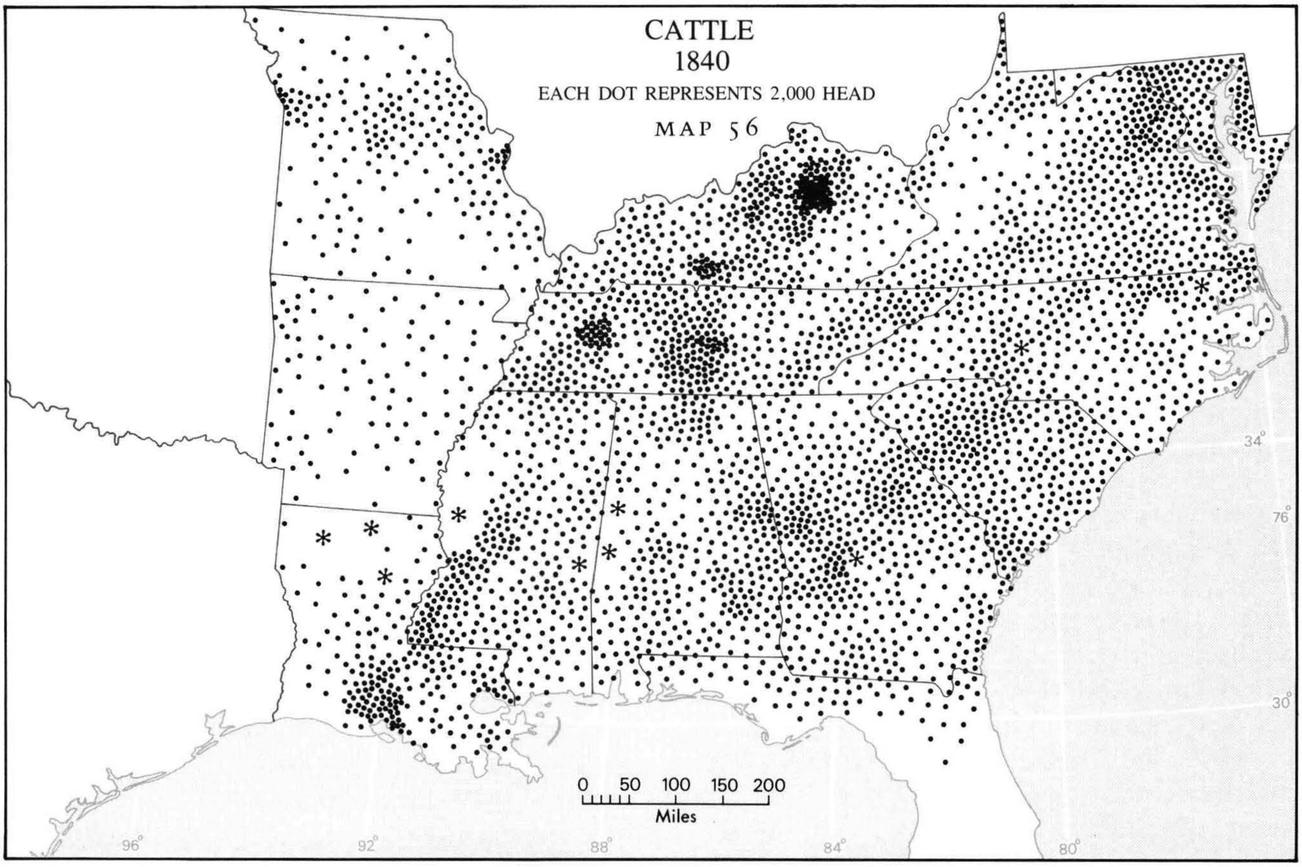
Swine were much more numerous than sheep and much more widely distributed. Pork was the dietary mainstay, and hogs were kept by almost everyone. Higher densities were found in the livestock areas of Tennessee and Kentucky where pork became a cash crop, but even outside those areas the number of hogs remained relatively high. It is important to note that the dot value for swine is two and one-half times that for cattle and sheep; thus the visual impressions of density are not comparable. In fact, swine far outnumbered cattle and sheep combined.

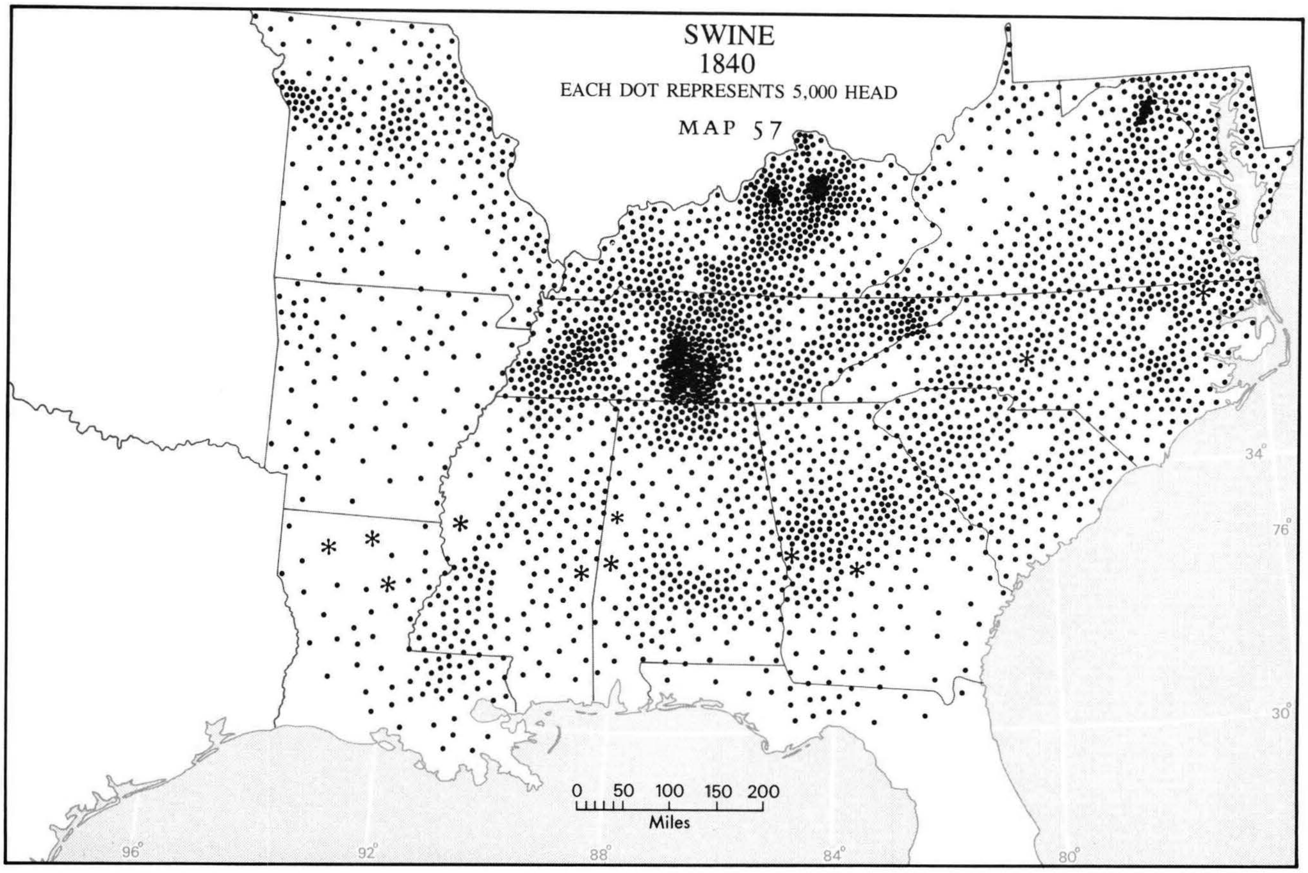
All three work animals were found in the area. The South's share of the nation's horses and oxen was higher than one might expect, and it could boast of having almost 90 percent of the nation's mules in 1860, though some of those reported were asses, since the category included both mules and asses. Of the three work animals, horses were most numerous. They were found throughout the area, but concentrations were reported in Kentucky and Tennessee. Secondary areas were Missouri and southern Louisiana. Horses were used for saddle, carriage, field, and draying work, but also as brood stock for mule raising.

The mule is the draft animal most commonly identified with the South, yet it was almost everywhere outnumbered by the horse. Its distribution correlated most closely with the more productive agricultural areas, especially with cash crops. It is presumed that the high numbers found in Kentucky, Tennessee, and Missouri reflect commercial stock bred for sale in the states to the south and west.

Of the three, oxen were least numerous, though they were fairly evenly distributed. Like mules, they were most numerous in areas of high cotton and sugar production, but other areas were Missouri and the tidewater of Virginia and Maryland, where a puzzling concentration of oxen existed.


SHEEP
1840
EACH DOT REPRESENTS 2,000 HEAD
MAP 55
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°

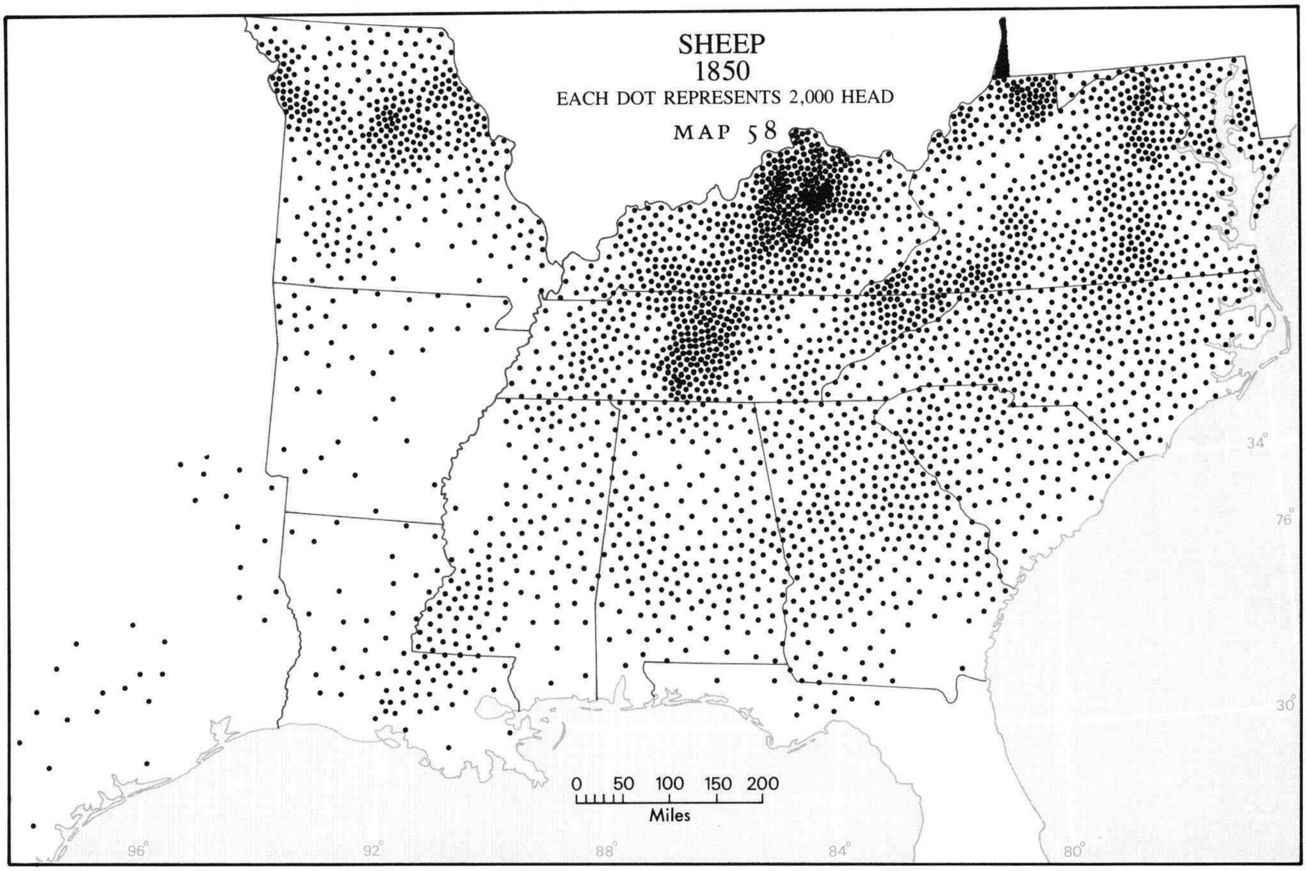

CATTLE
1840
EACH DOT REPRESENTS 2,000 HEAD
MAP 56
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°

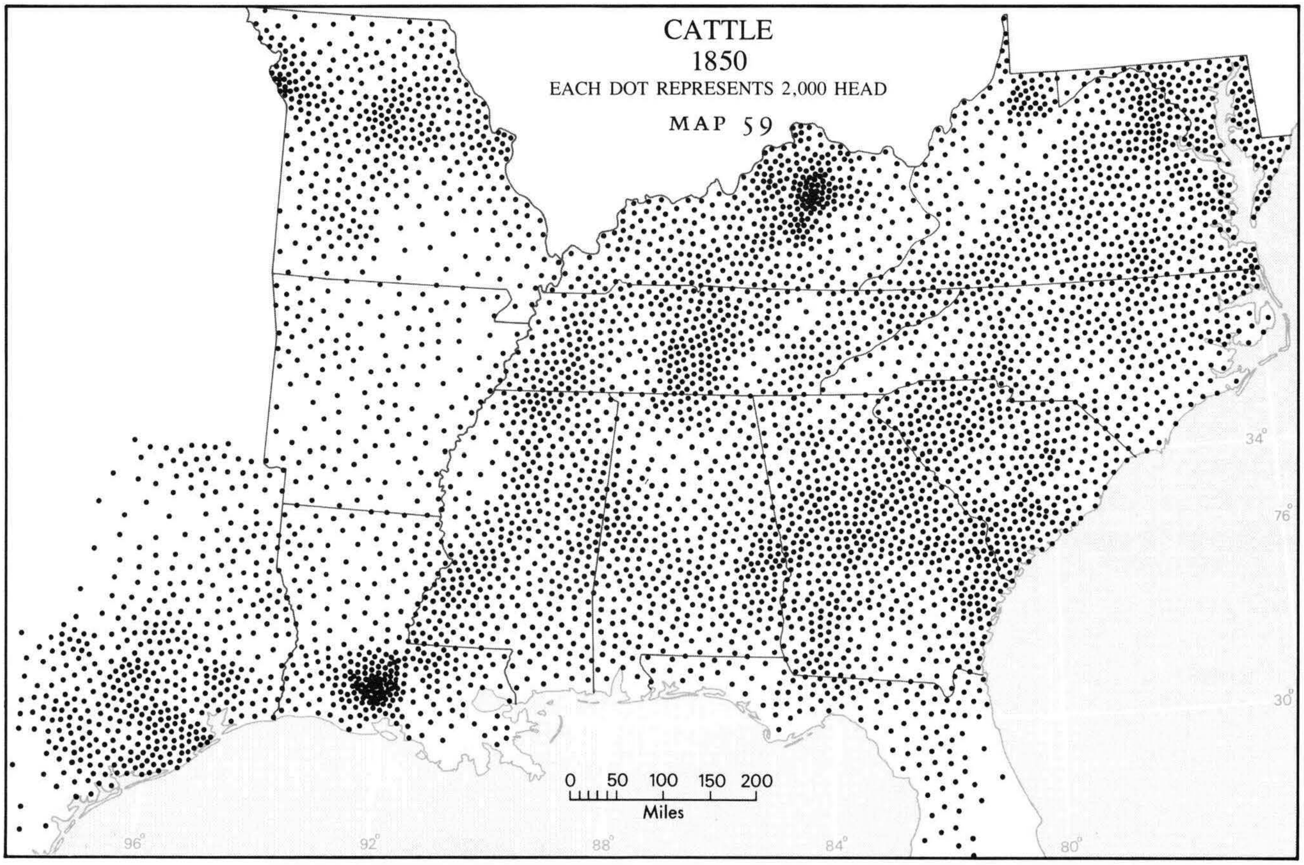


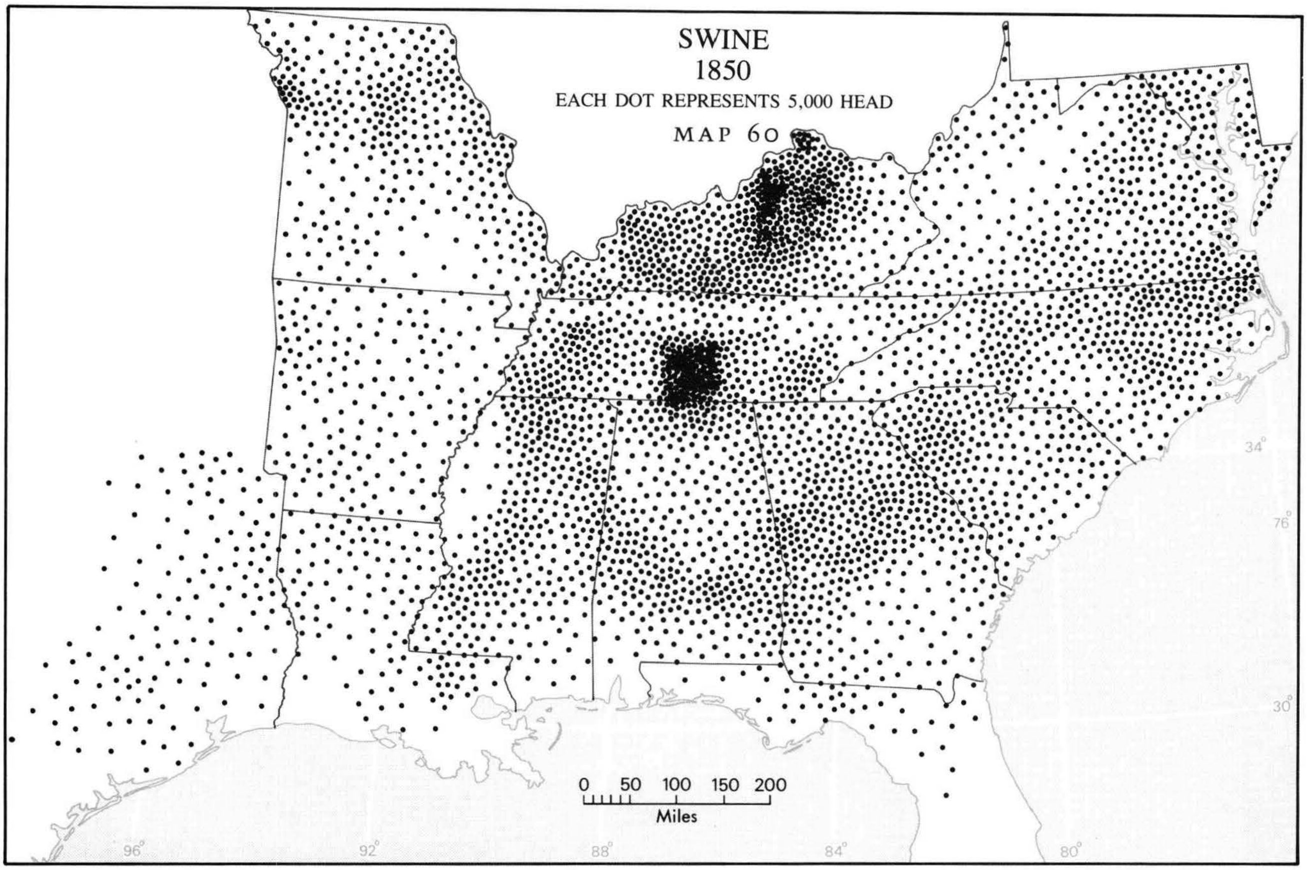
The same dot value was used in mapping all three draft animals; thus the distributions may be readily compared.

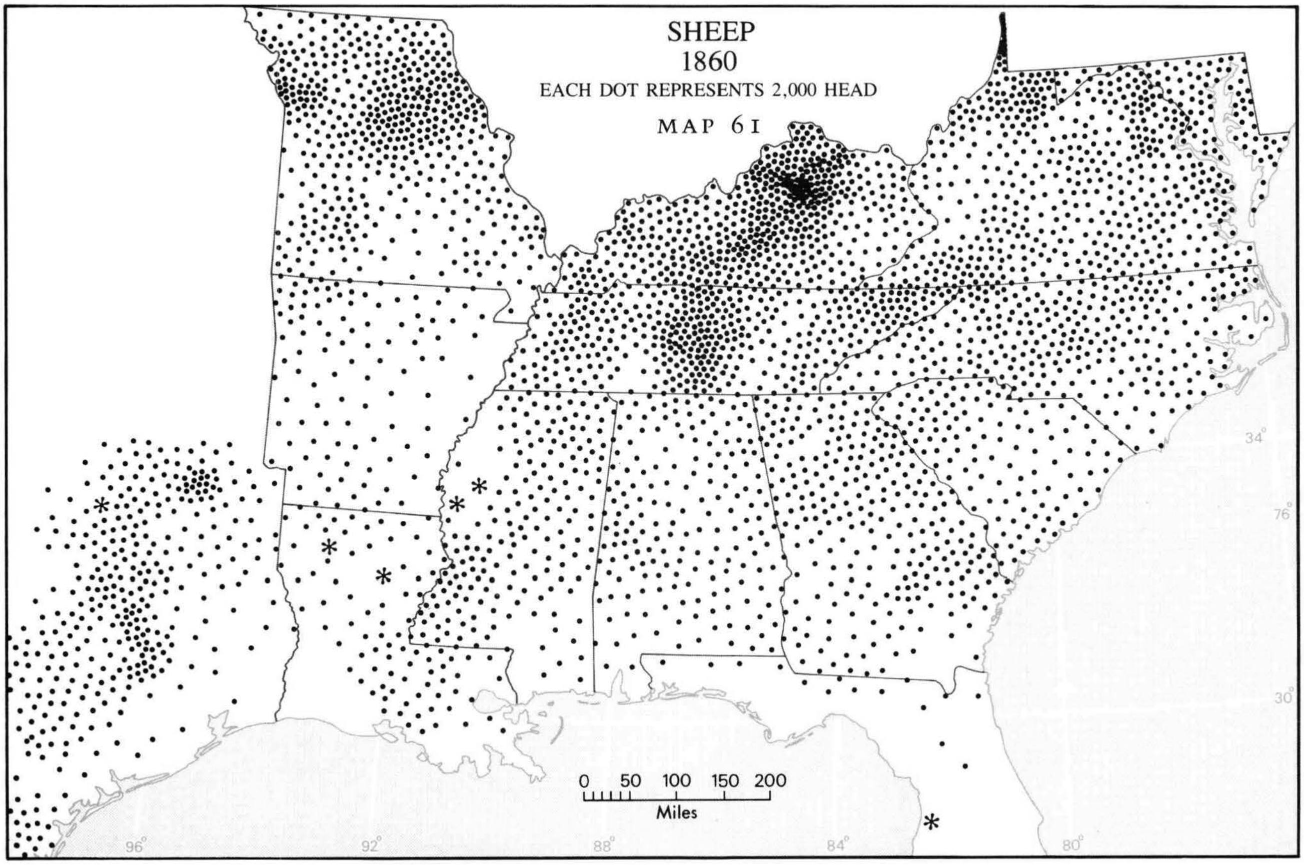
Of particular interest are the maps showing each draft animal in relation to the others (odd-numbered maps from 65 through 75). Each animal had its own areas of importance, but note that the categories used for mapping horses differ from those for the other two. Even in the areas where horses are shown to be less important, they often outnumbered both mules and oxen. Refer to the dot maps of each. It is perhaps instructive to consider the use to which each animal was put. In theory, all three were virtually interchangeable, but in practice they were not. Certain advantages of each were frequently noted, yet a body of cultural preferences and prejudices existed that dictated, as much as utility, where each was to be used. The ox is a slow-moving, powerful animal that worked well in heavy work but was less suited to cultivation. Both the mule and horse could be used in a variety of chores, but the southern horse saw the plow harness much less than did the mule. The horse was a high-status, versatile animal, appropriate for saddle, light carriage, and wagon work, while the mule was relegated to the cotton and sugarcane fields. It is no accident that the dot maps for mules and slaves show striking similarities.

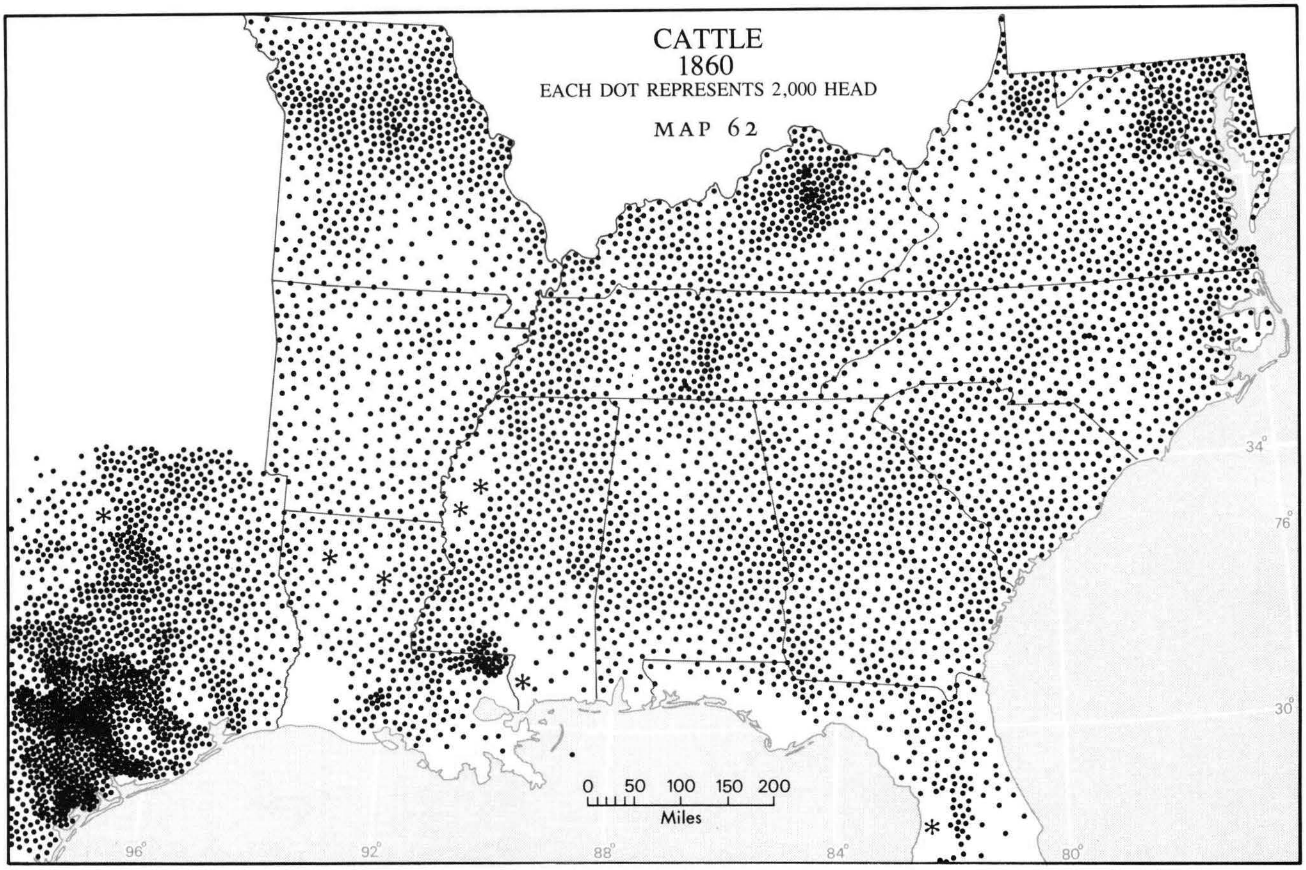
It is worth noting that the data on livestock probably are inaccurate. For one thing, many animals kept by urban dwellers were omitted from the returns, and there is some question whether yearlings were counted, especially young mule and horse colts. Both factors resulted in an undercount of almost all animals. It is likely that the undercount would be greatest for horses, mules, milk cows, and swine, since all these were more likely to be kept on urban lots. Horses were used for carriage, saddle, and drayage, while milk cows and pigs were kept for dairy products and meat.


SHEEP
1850
EACH DOT REPRESENTS 2,000 HEAD
MAP 58
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°


CATTLE
1850
EACH DOT REPRESENTS 2,000 HEAD
MAP 59
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°

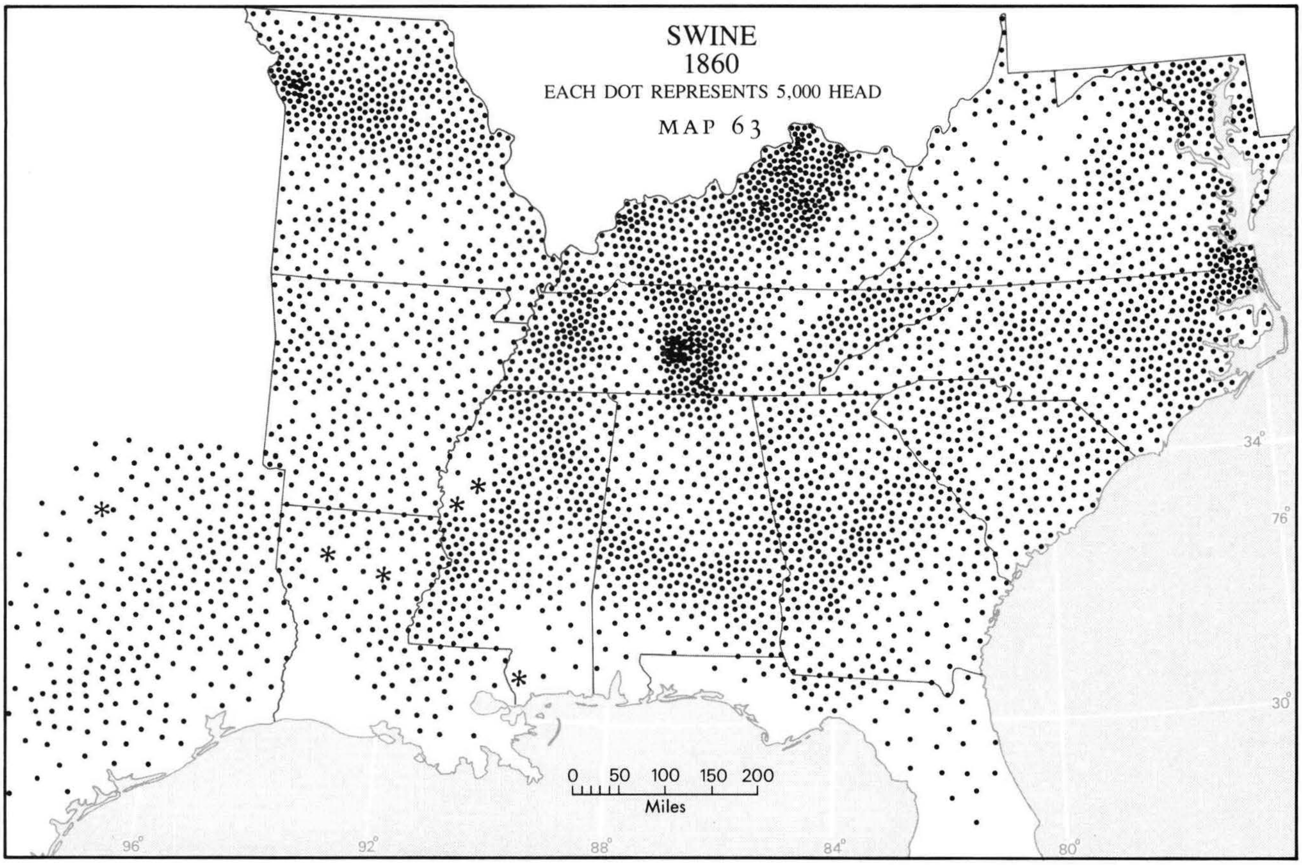

SWINE
1850
EACH DOT REPRESENTS 5,000 HEAD
MAP 60
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°


SHEEP
1860
EACH DOT REPRESENTS 2,000 HEAD
MAP 61
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°



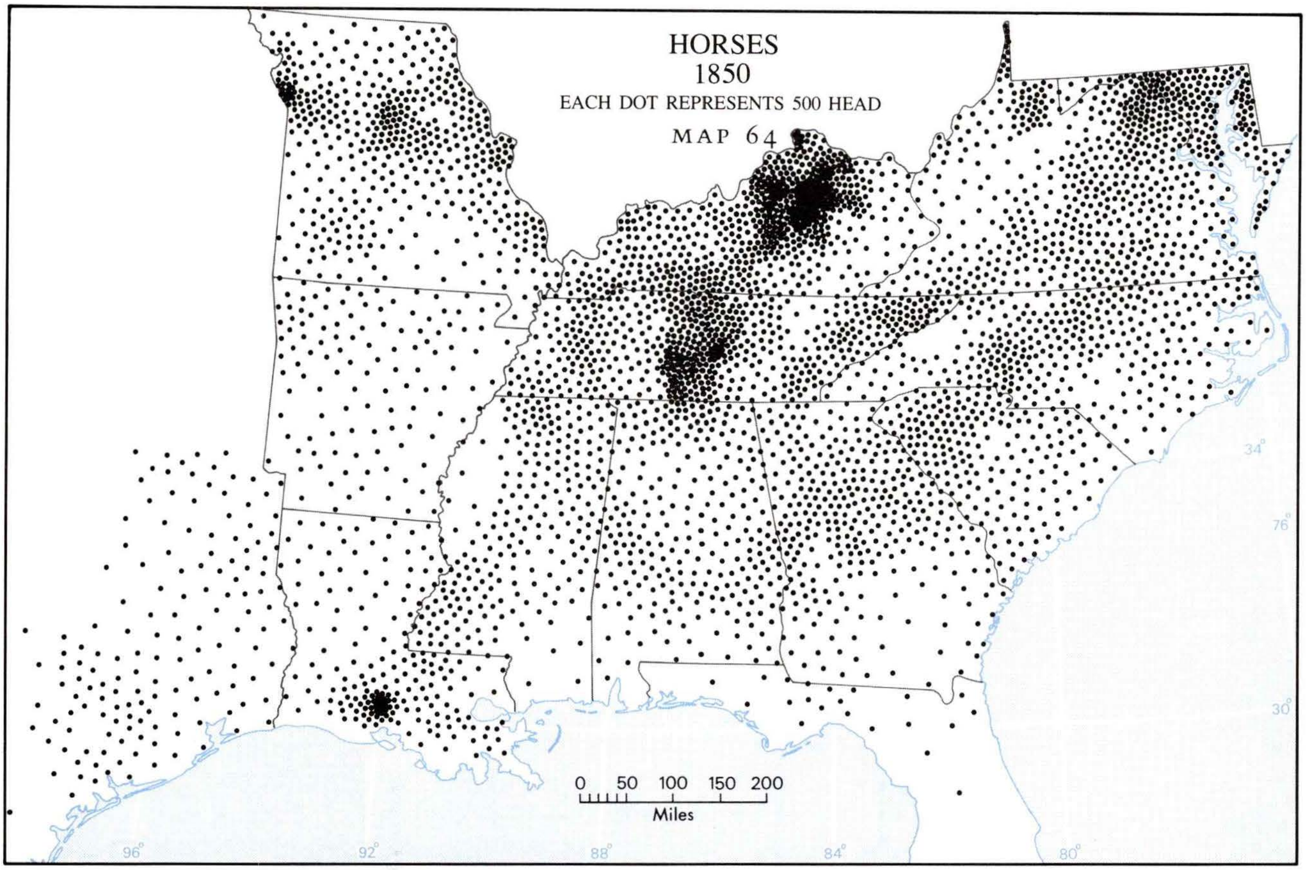
CATTLE
1860
EACH DOT REPRESENTS 2,000 HEAD

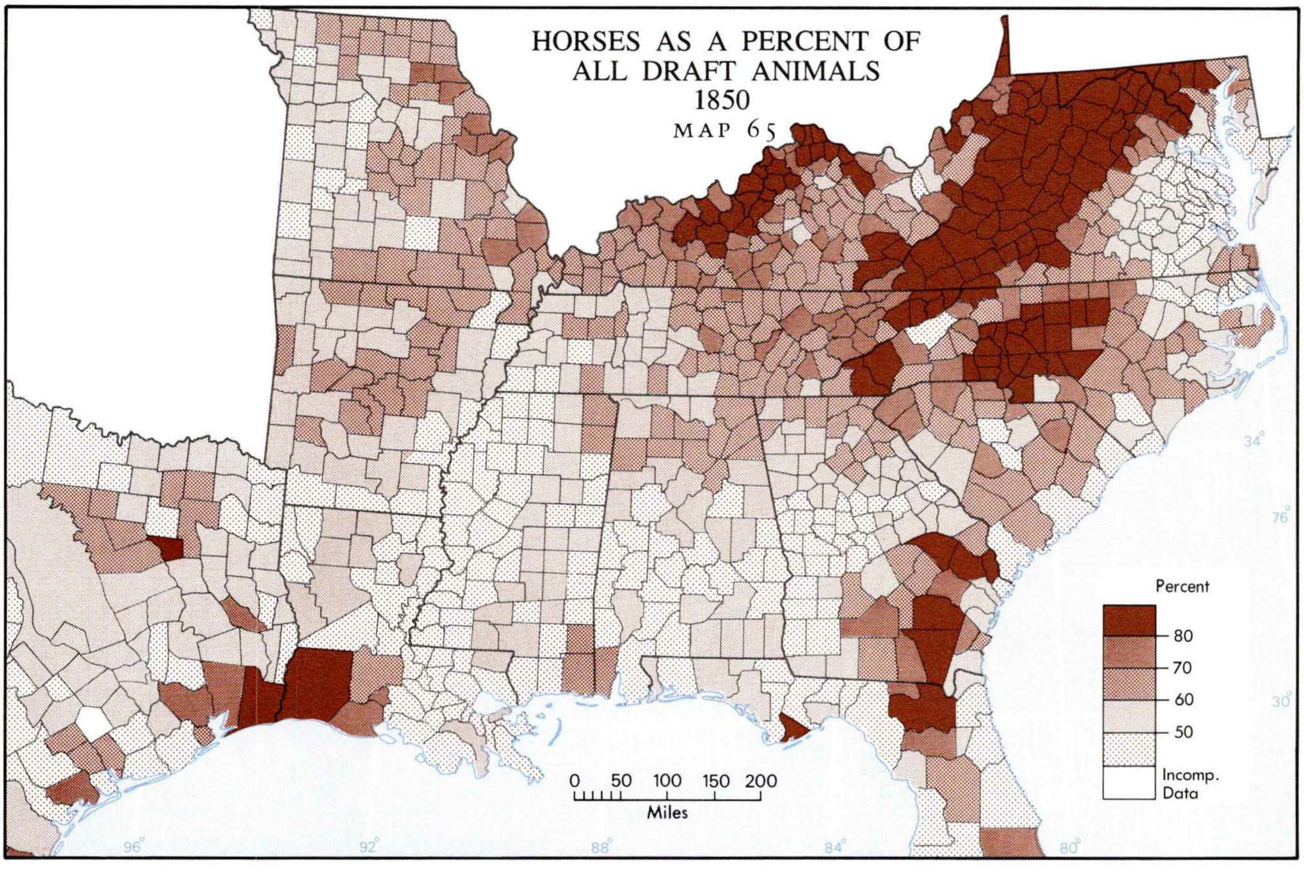
MAP 62

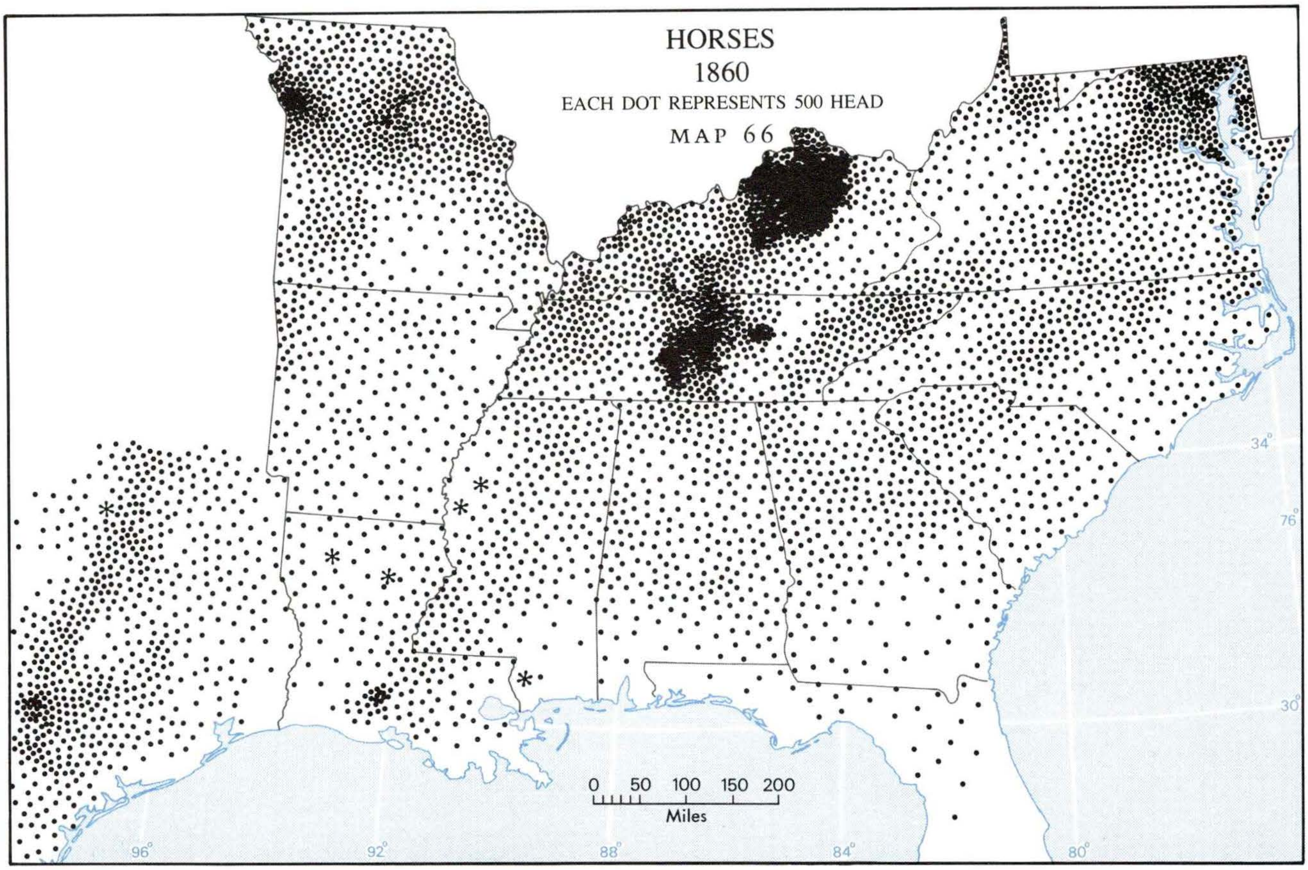


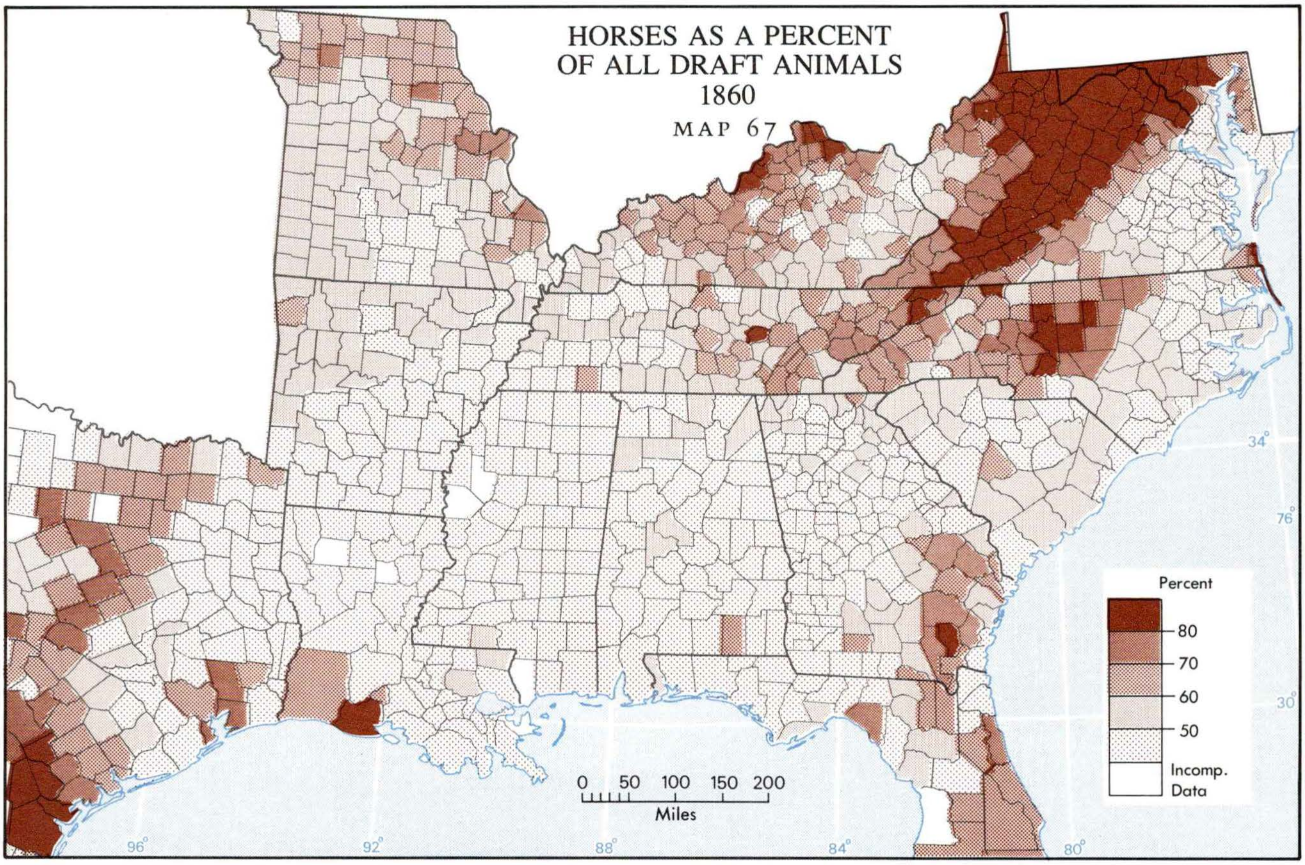
SWINE
1860
EACH DOT REPRESENTS 5,000 HEAD

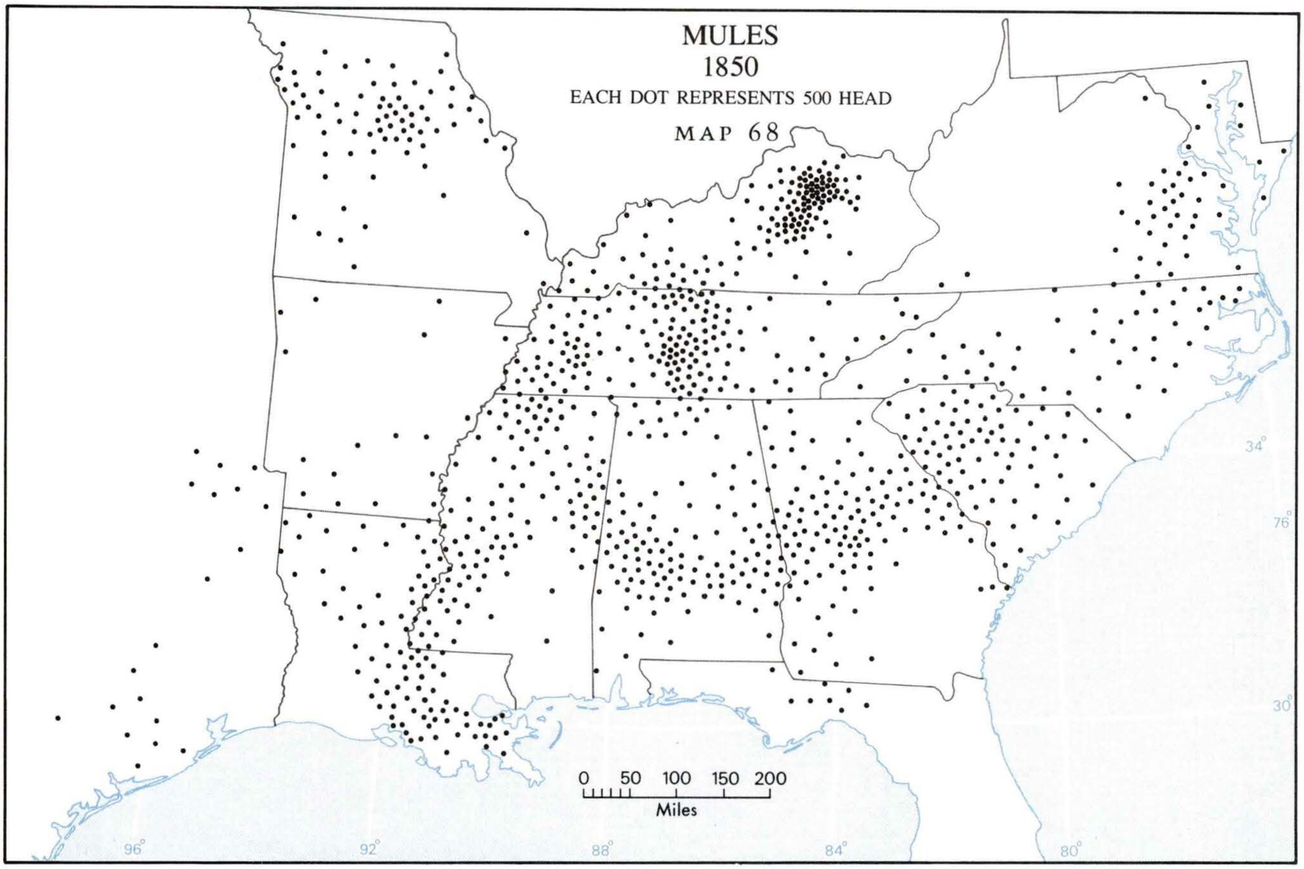
MAP 63


HORSES
1850
EACH DOT REPRESENTS 500 HEAD
MAP 64
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°

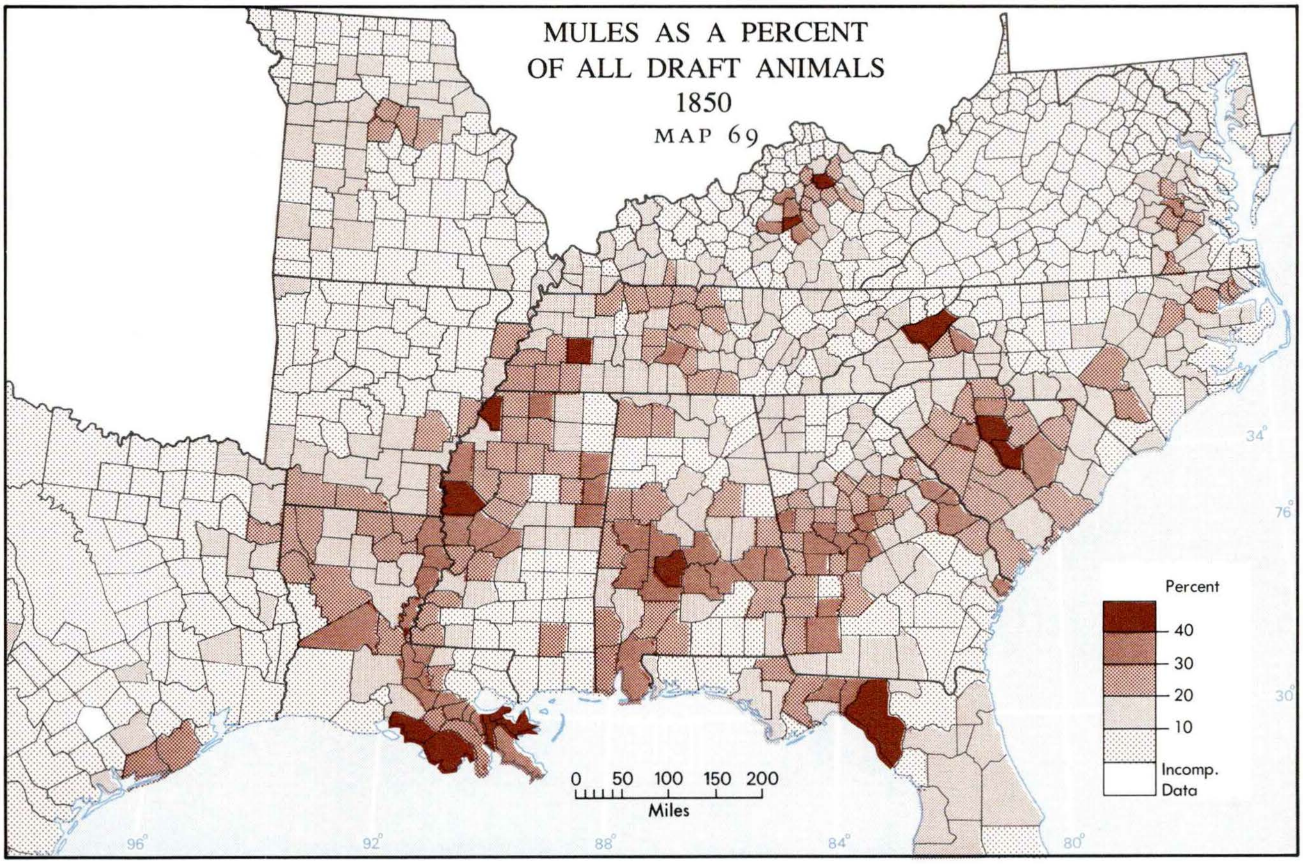

HORSES AS A PERCENT OF ALL DRAFT ANIMALS
1850
MAP 65
Percent
80
70
60
50
Incomp. Data
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°


HORSES
1860
EACH DOT REPRESENTS 500 HEAD
MAP 66
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°

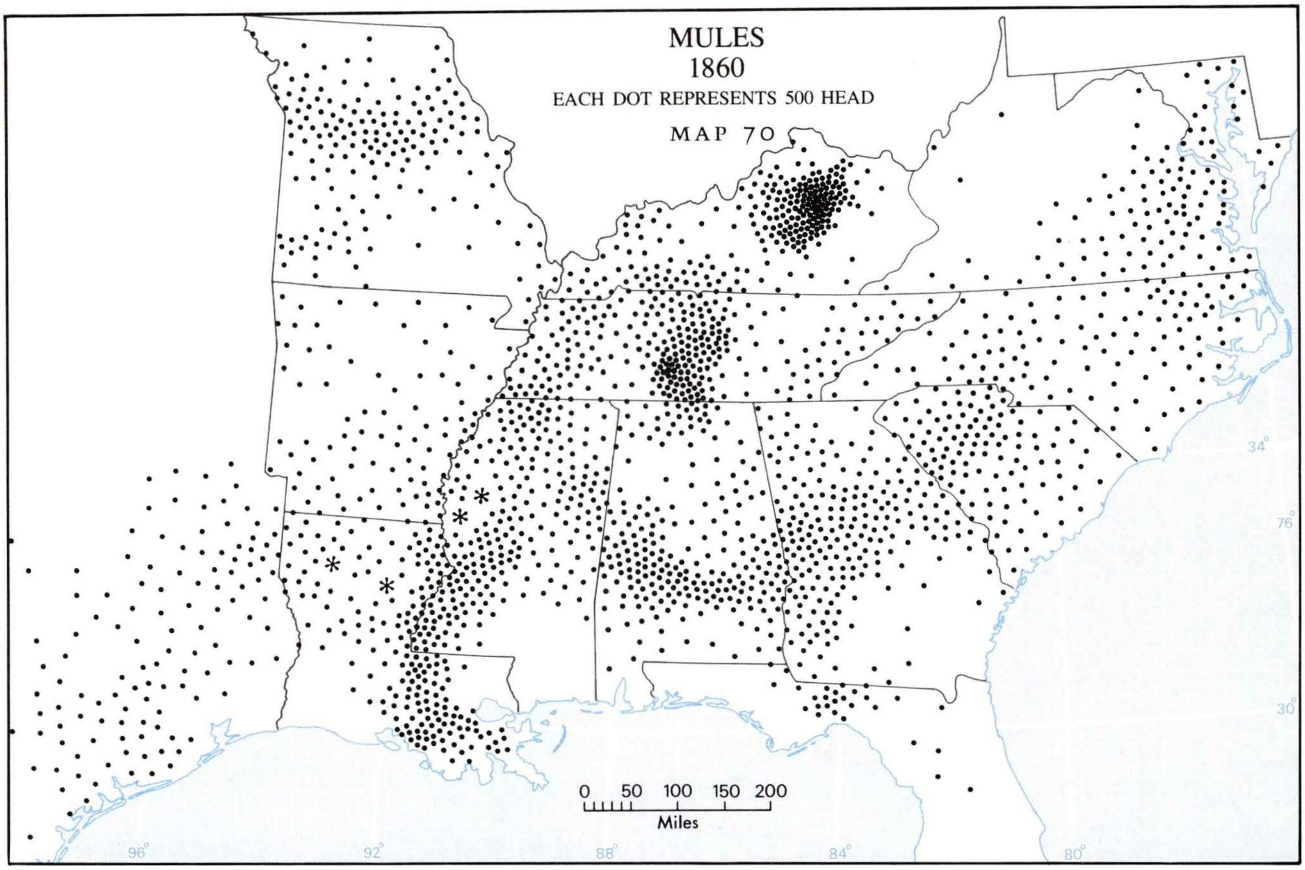

HORSES AS A PERCENT OF ALL DRAFT ANIMALS
1860
MAP 67
Percent
80
70
60
50
Incomp. Data
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°



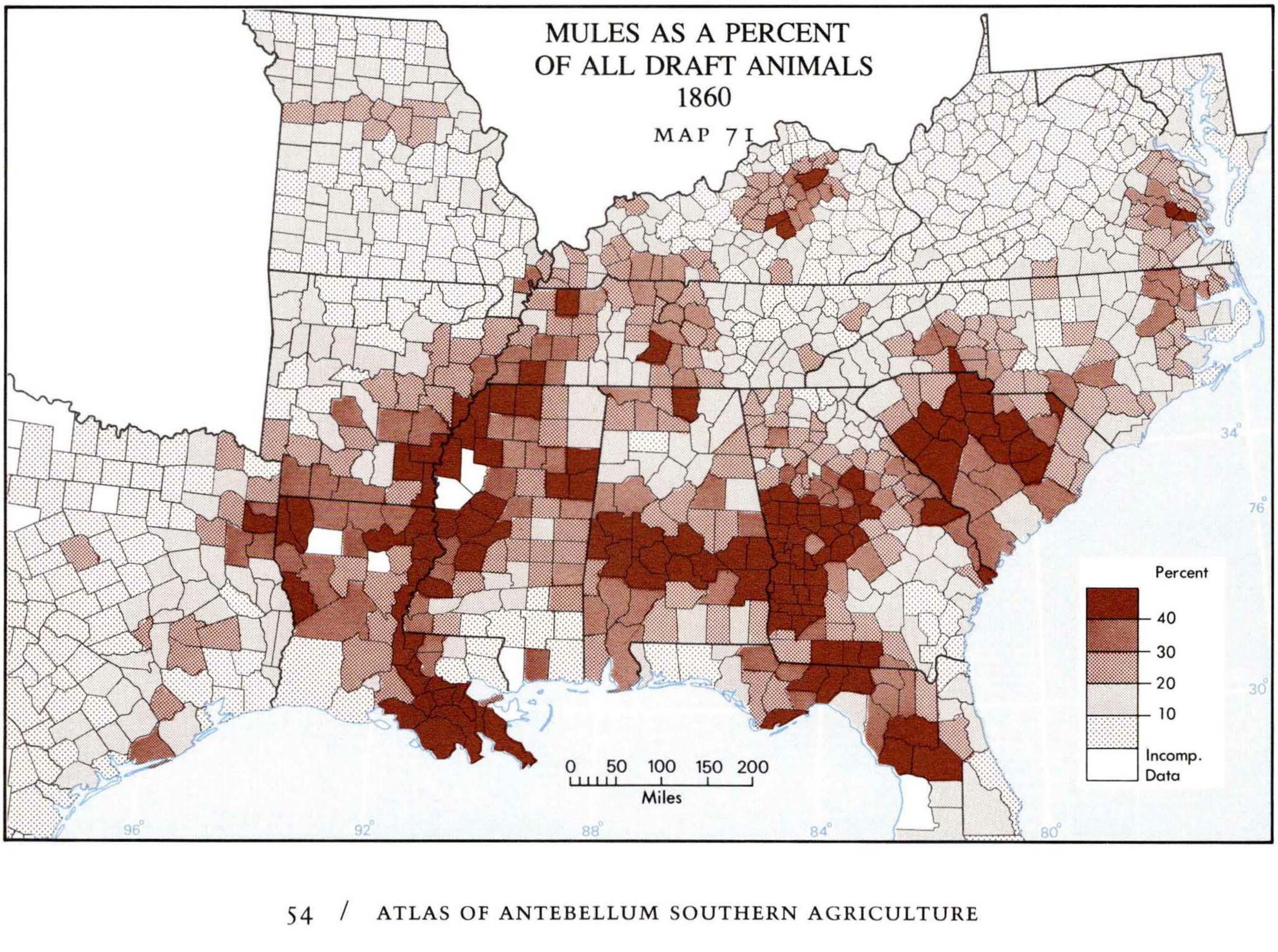
MULES
1850
EACH DOT REPRESENTS 500 HEAD
MAP 68



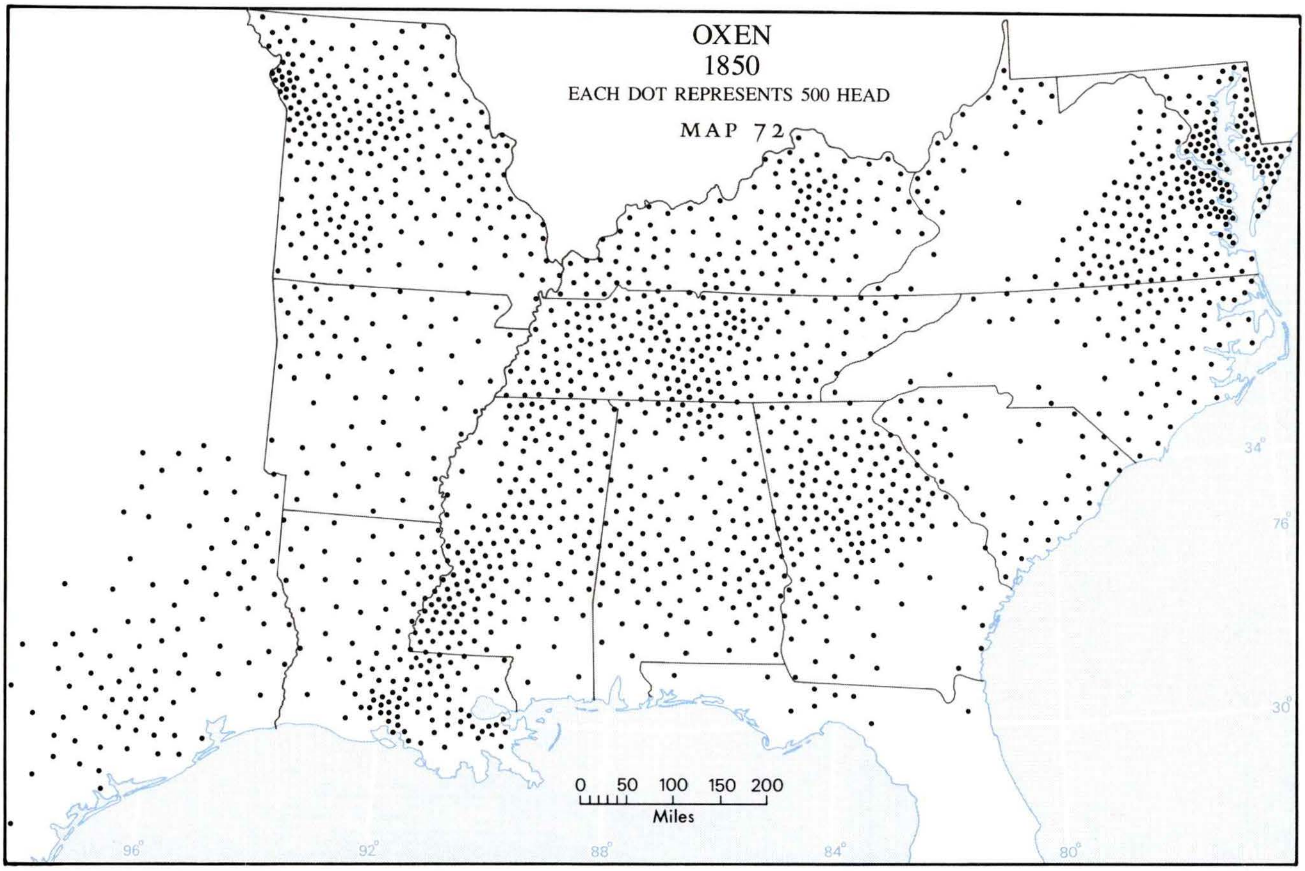
MULES AS A PERCENT
OF ALL DRAFT ANIMALS
1850
MAP 69

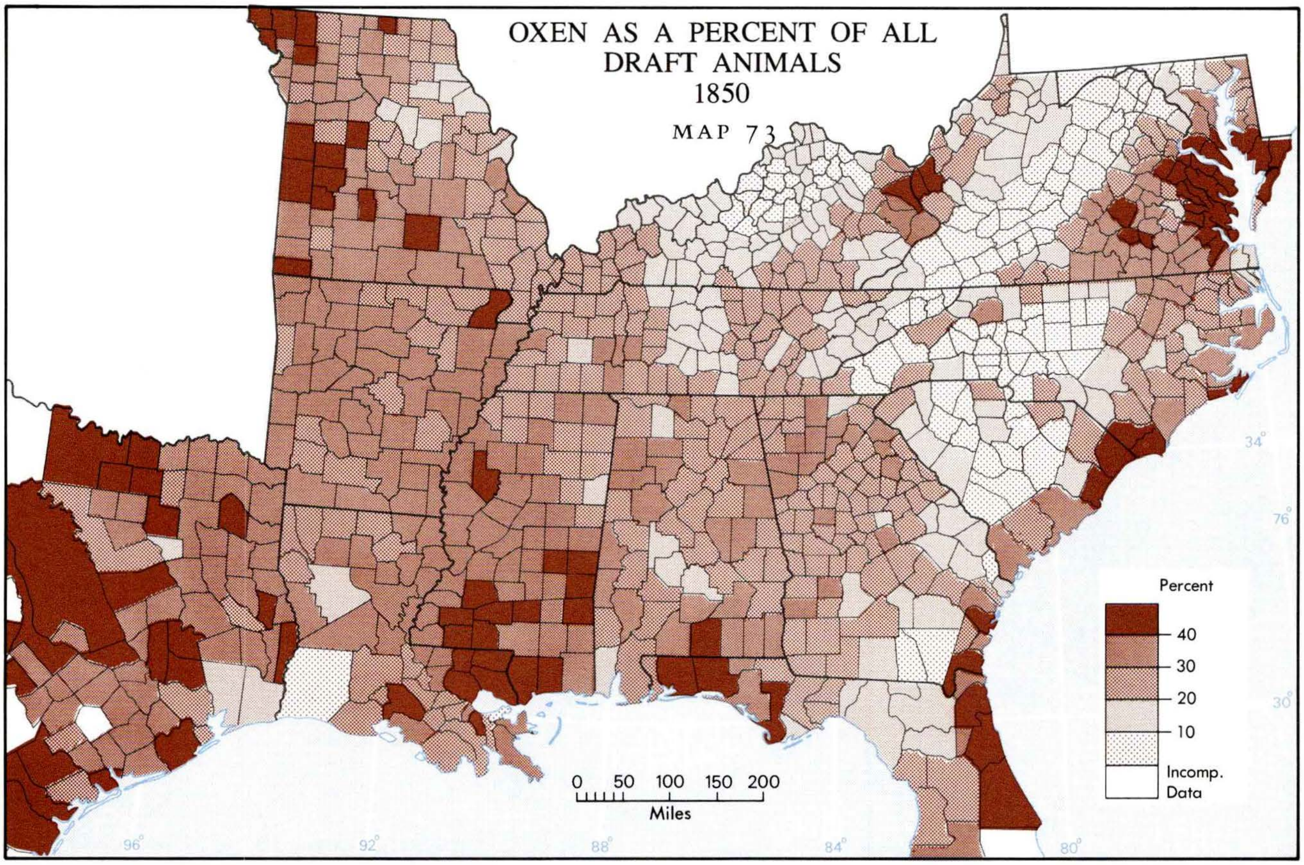


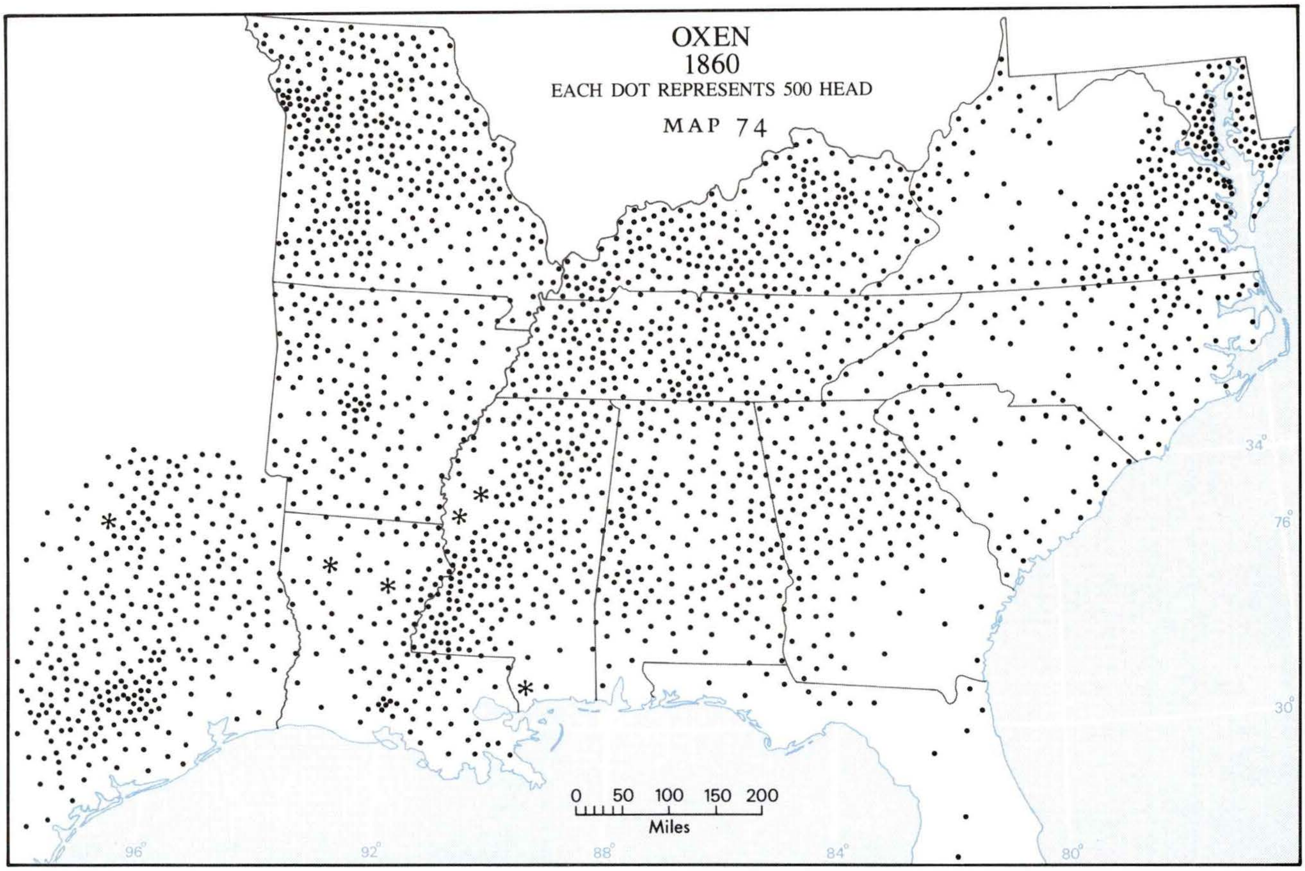
MULES
1860
EACH DOT REPRESENTS 500 HEAD
MAP 70

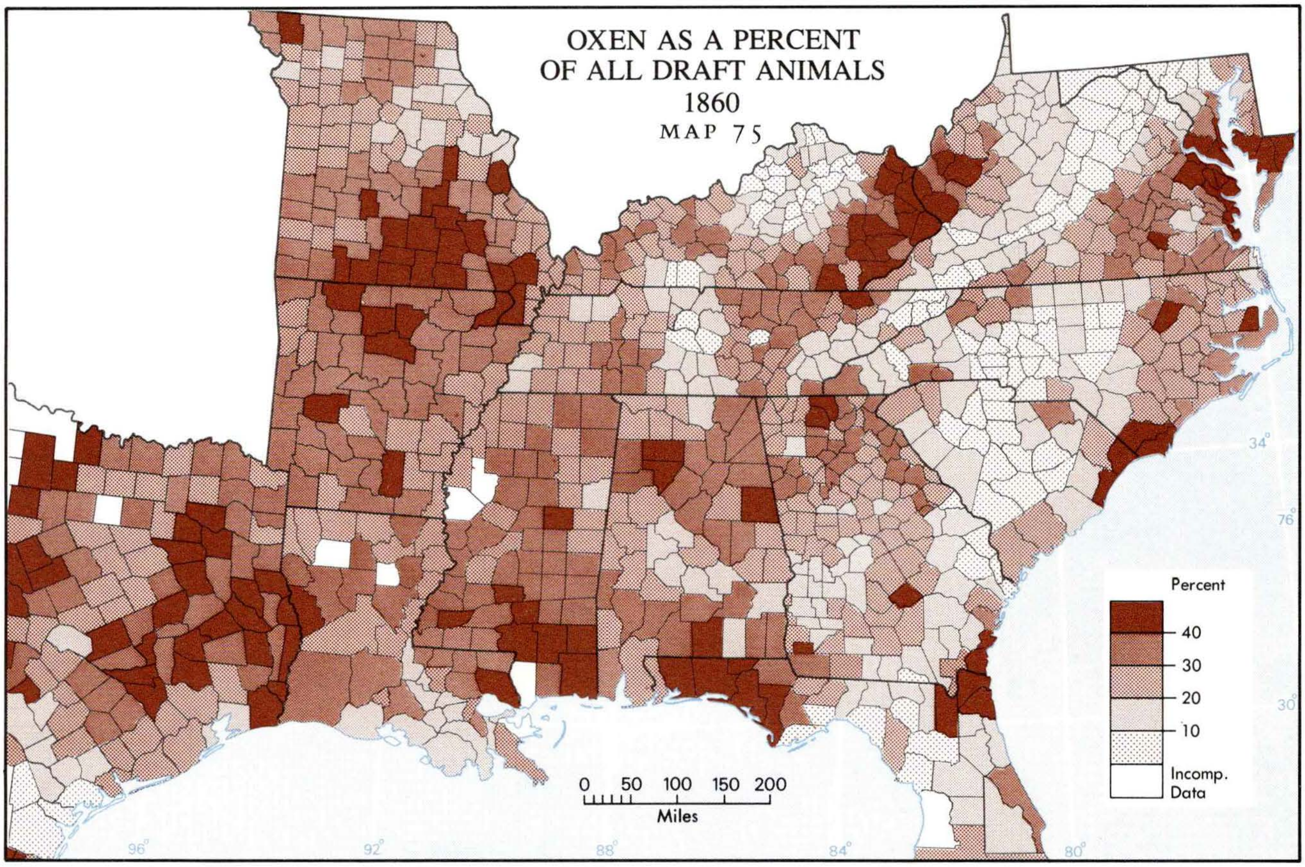


MULES AS A PERCENT
OF ALL DRAFT ANIMALS
1860
MAP 71


OXEN
1850
EACH DOT REPRESENTS 500 HEAD
MAP 72
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°


OXEN AS A PERCENT OF ALL DRAFT ANIMALS
1850
MAP 73
Percent
40
30
20
10
Incomp. Data
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°


OXEN
1860
EACH DOT REPRESENTS 500 HEAD
MAP 74
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°


OXEN AS A PERCENT
OF ALL DRAFT ANIMALS
1860
MAP 75
Percent
40
30
20
10
Incomp. Data
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°

VI
Major Crops

The South produced a variety of crops, but some were much more widely grown than others and their impact on the area's economy was much greater. In this section, wheat, corn, and cotton are presented in a series of maps chosen to show their relative importance.

Although the area's production of wheat was overshadowed by that of the Old Northwest, the demand for wheat flour was such that the grain received considerable attention (Maps 76 through 84). The most striking aspect of wheat production is that it was relatively small in those areas where cotton, rice, and sugarcane were grown. Its domain was the Piedmont of Georgia, the Carolinas, Virginia, and Maryland, and the better lands of Tennessee, Kentucky, and Missouri. Production increased through time, and although the area of wheat growing expanded somewhat, the distribution remained roughly the same. An indication of the amount of wheat available for consumption is shown by the per-capita maps, while the importance of wheat as an element in the farm landscape may be seen in the maps showing wheat production per square mile. The dearth of wheat over the core of the Deep South is notable, and one is tempted to ascribe environmental causes. Yet, wheat yielded fairly well when it received decent attention. A major problem was that cotton competed strongly for labor at the time when wheat had to be harvested.

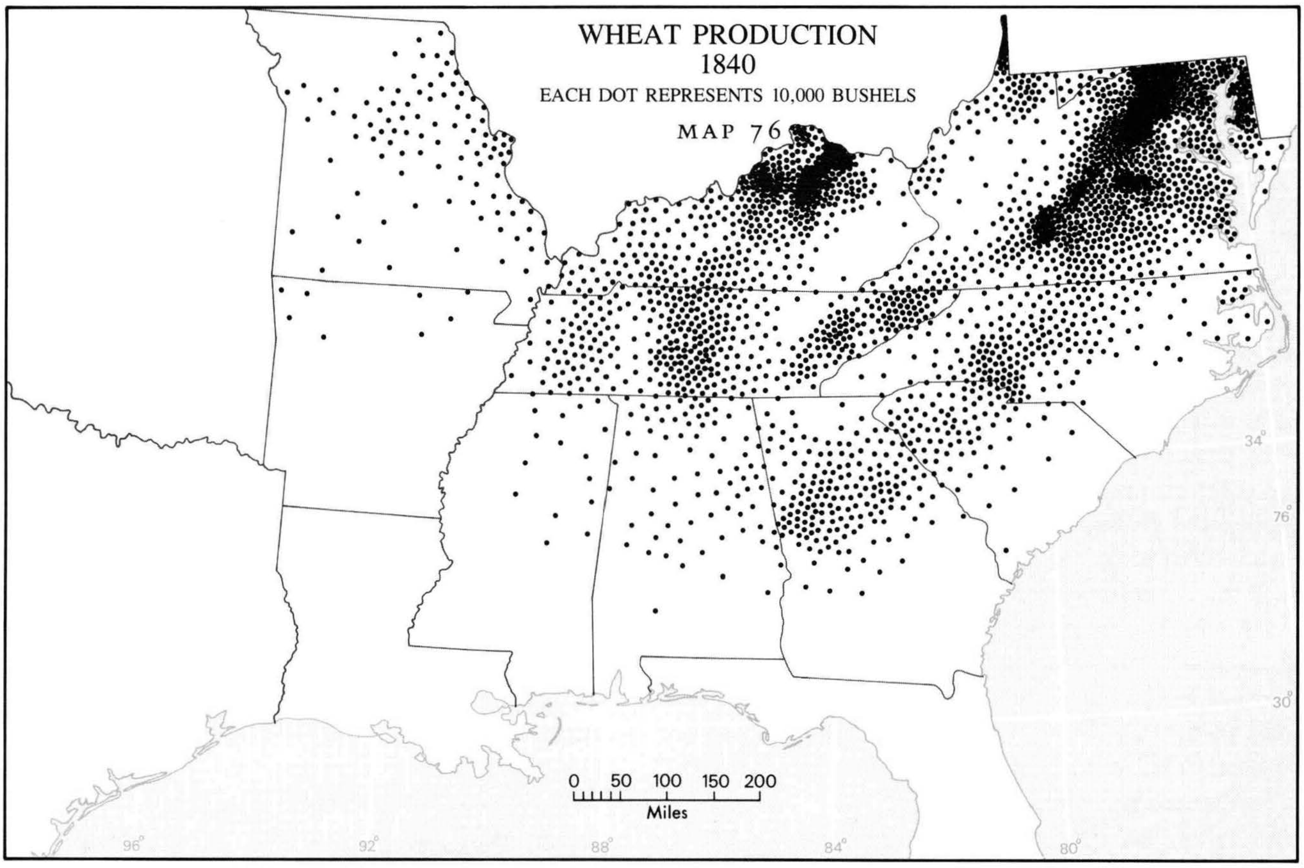
Corn far eclipsed wheat as the region's cereal crop; it was grown thoughout the area and was the grain crop most commonly reported in the census. Corn was near universal as food for both humans and animals, and the regional consumption was huge (Maps 85 through 93). The major production areas were the basins of Kentucky and Tennessee, but by 1860 Missouri was the leading corn state. In addition to the dot maps of production, corn, like wheat, is mapped in relation to both population and area, the former to indicate availability as food and the latter to show the crop's importance in agricultural land use. Note that the dot value for corn is *ten times* that of wheat; thus the reader should be careful not to underrate corn's importance. Note, too, that the categories on both the per-capita and per-mile maps differ markedly from wheat to corn.

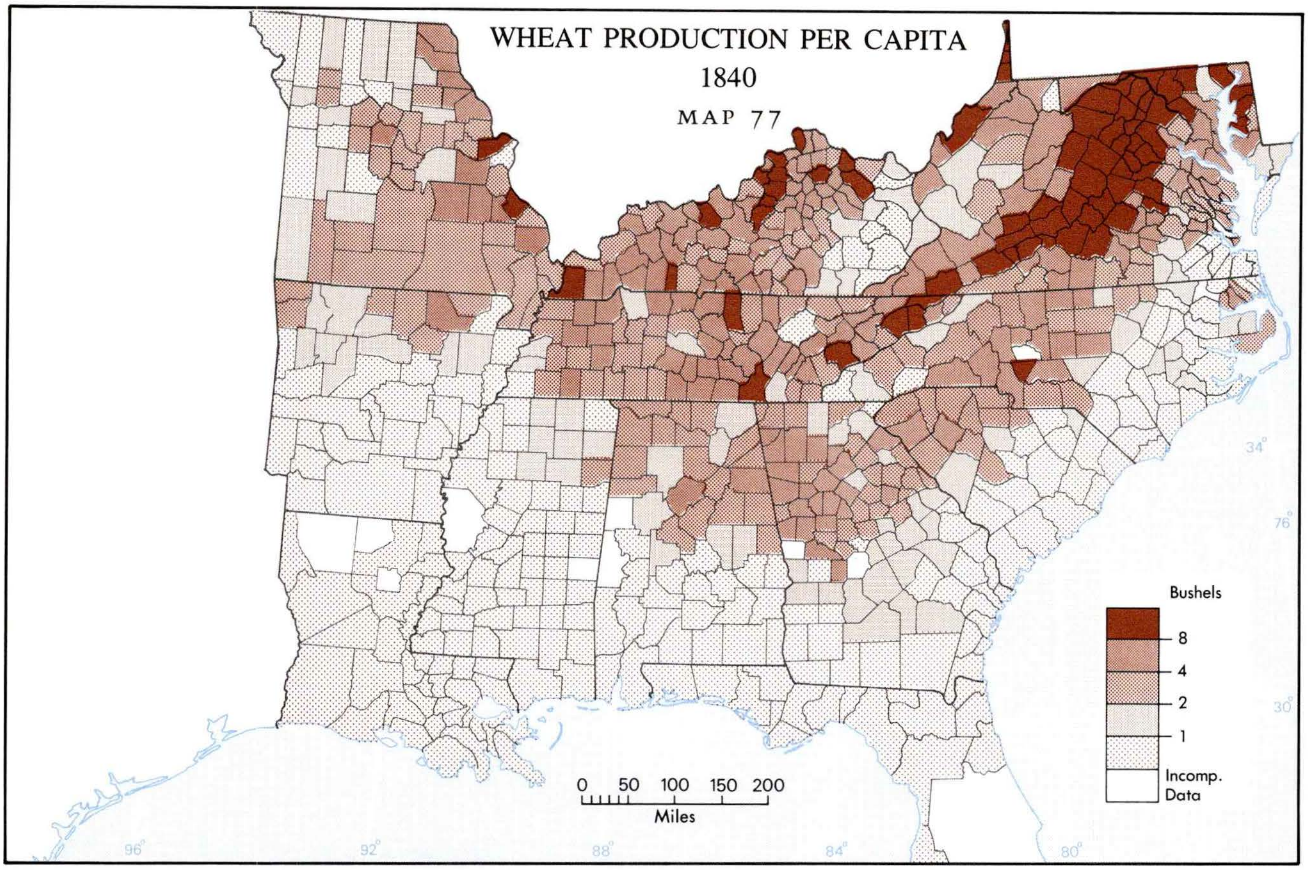
The history of cotton is so closely linked to the South that it demands special treatment (Maps 94 through 102). The census reported cotton production beginning in 1840, but its importance was such that sketchy data for the period before 1840 are available. Cotton production included two types, sea island and upland, but the bulk of the crop after about 1800 was upland. The core of early upland cotton was in eastern Georgia and west-central South Carolina. From there it spread northeastward into North Carolina and Virginia and westward. By 1820 it had leapfrogged west into the Alabama Black Belt, the Tennessee River valley of Alabama and Middle Tennessee, as well as Louisiana and the Natchez district of Mississippi. Ten years later production had increased in the core areas, but also had spread to southwestern Georgia and western Tennessee. By 1840 the producing areas were beginning to coalesce; during the next twenty years production continued to increase and the producing area expanded.

A good measure of cotton's importance may be gained by mapping production in relation to area, that is, production per square mile. By comparing even-numbered maps from 96 through 102 one can visualize the developing "Cotton Belt." Of perhaps greater importance is to note how sharp the gradient is on the periphery of the Cotton Belt.

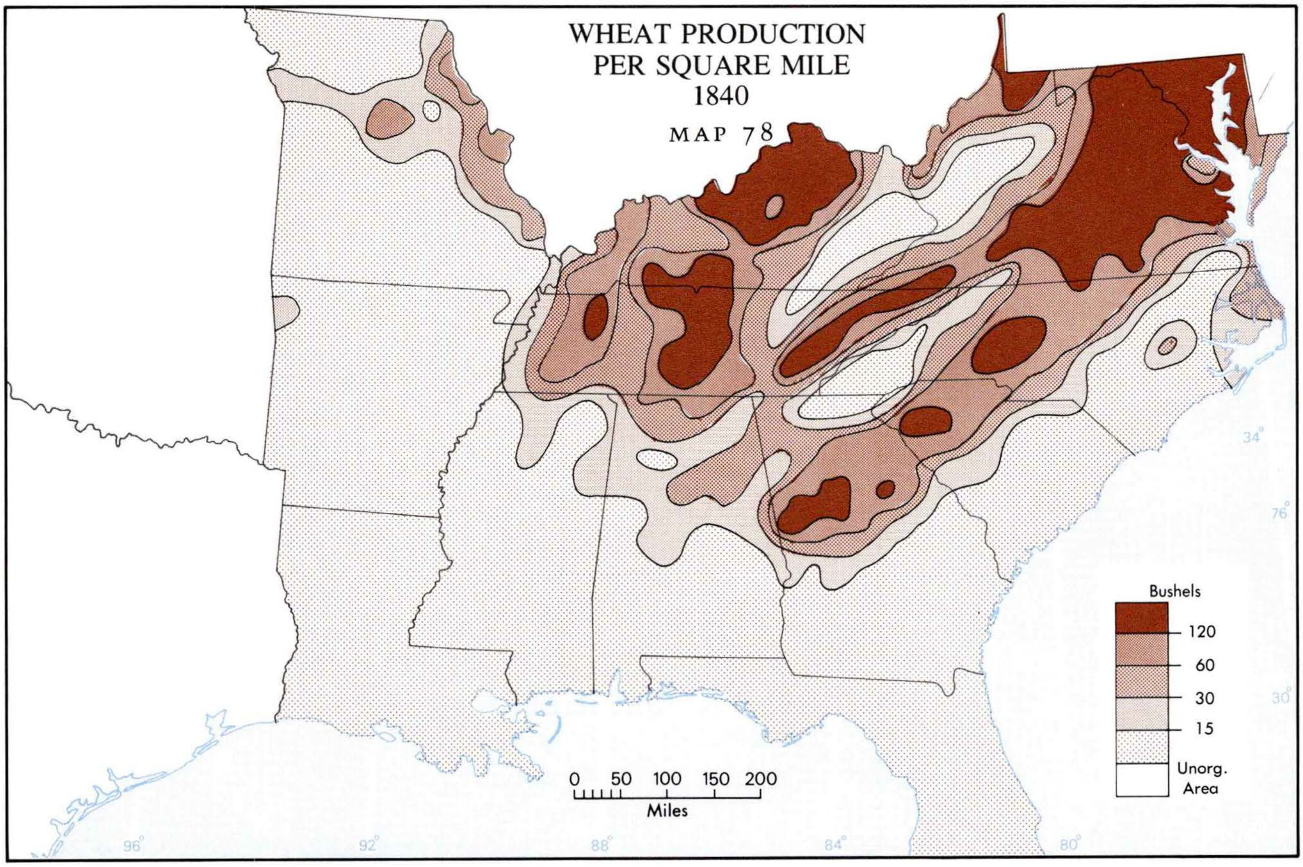
In southern Alabama, for example, production ranged from over eighty-four bales per square mile to less than four over a distance of but twenty or thirty miles. Note, too, how much of the area reported fewer than five bales per square mile. Cotton was by no means ubiquitous, even in the Deep South.

Unfortunately, acreage data are not available; thus reconstruction of agricultural land use is a matter of speculation. In attempting to visualize the importance of each of the three crops in the rural landscape, it is helpful to remember that a square mile contains 640 acres and that typical "good" yields per acre for the three crops might have been about twenty bushels for wheat and corn and one-quarter bale for cotton. Thus any area that reported 120 bushels of wheat per square mile had only about 6 acres of land planted to wheat, and one reporting 2,000 bushels of corn per square mile had about 100 acres of corn per square mile. Obviously, corn was a much more important crop than wheat. If similar assumptions are made for cotton, then those areas reporting above 45 bales per square mile had at least 180 acres planted to cotton. Admittedly, such gross assumptions about yields may be misleading, but they do provide a rough idea of the relative importance of each crop.

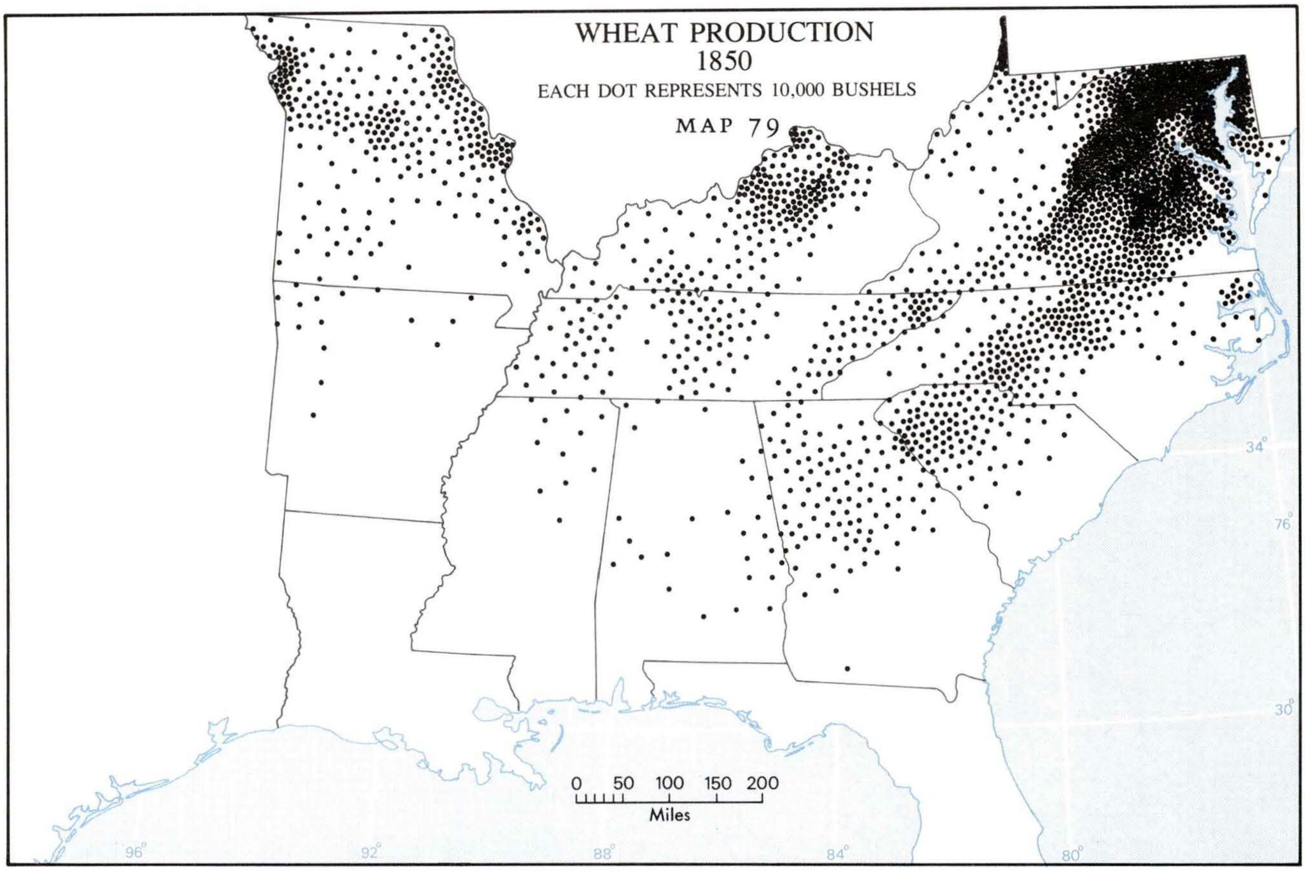


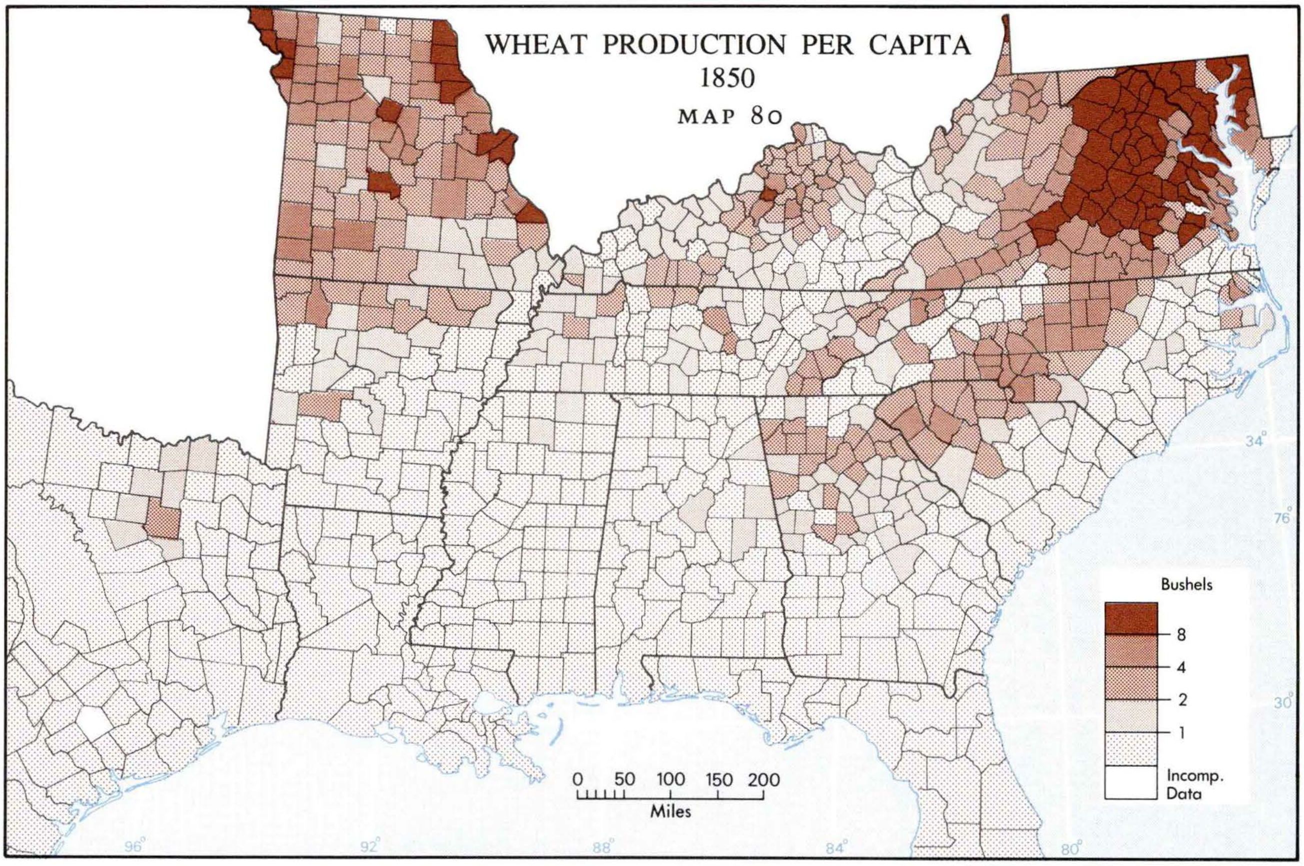


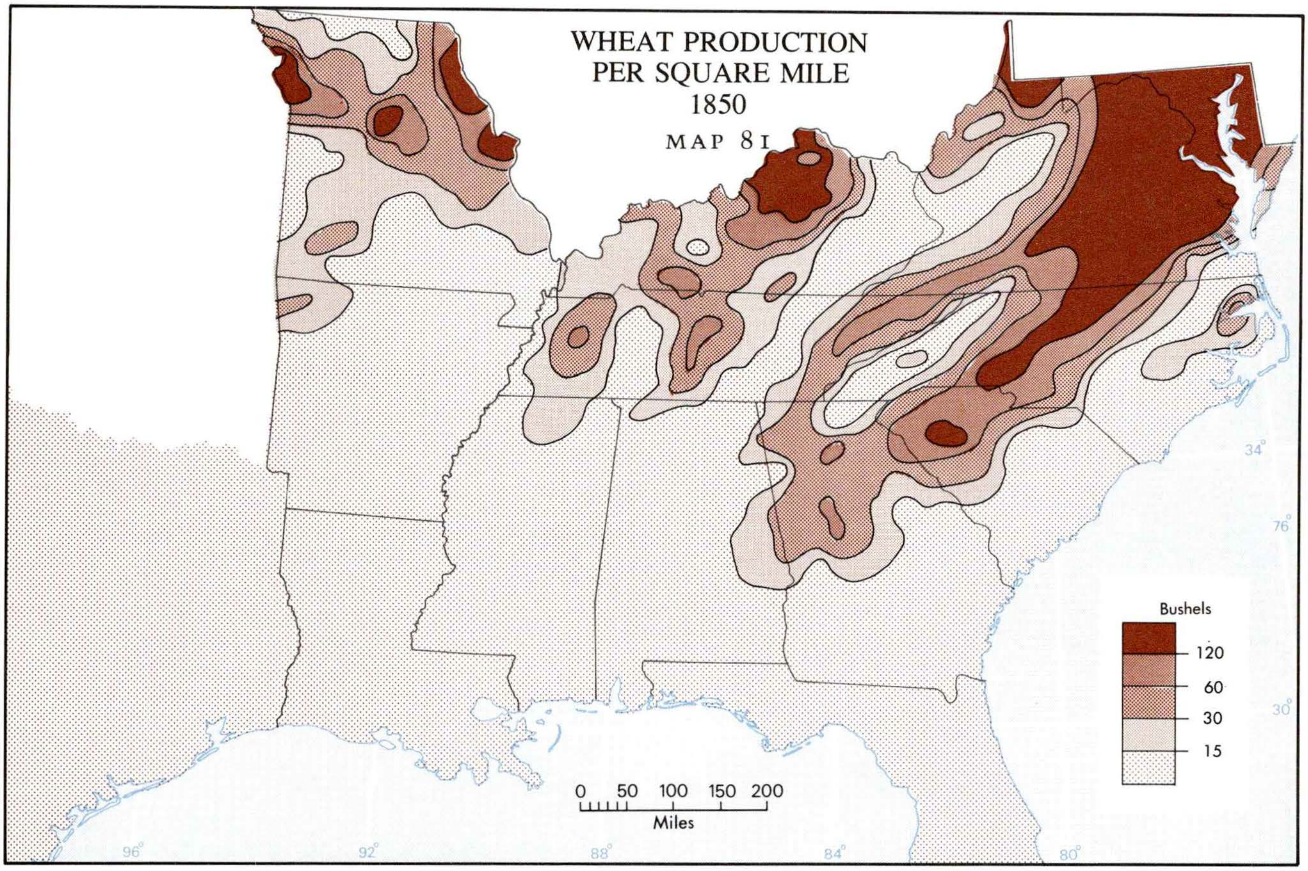
WHEAT PRODUCTION PER CAPITA
1840
MAP 77

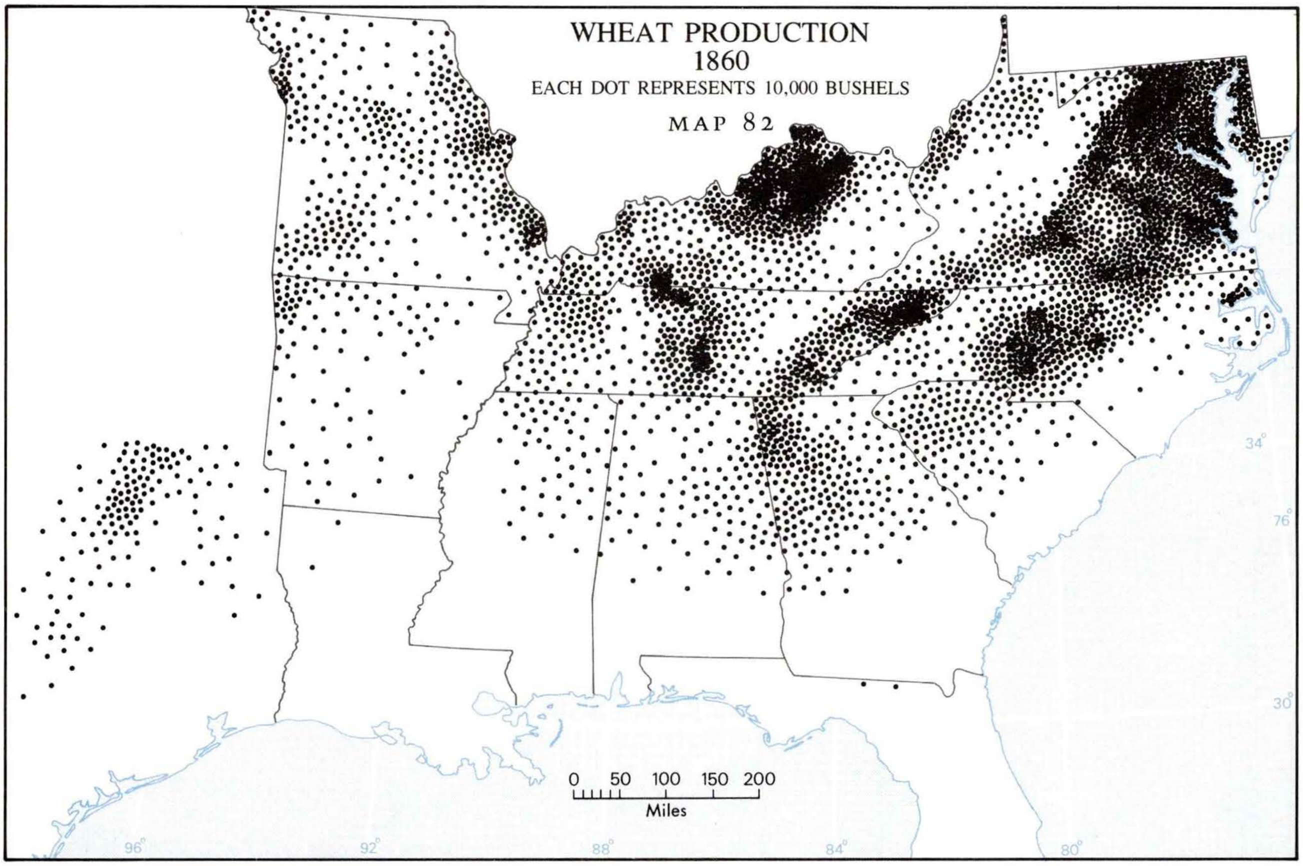


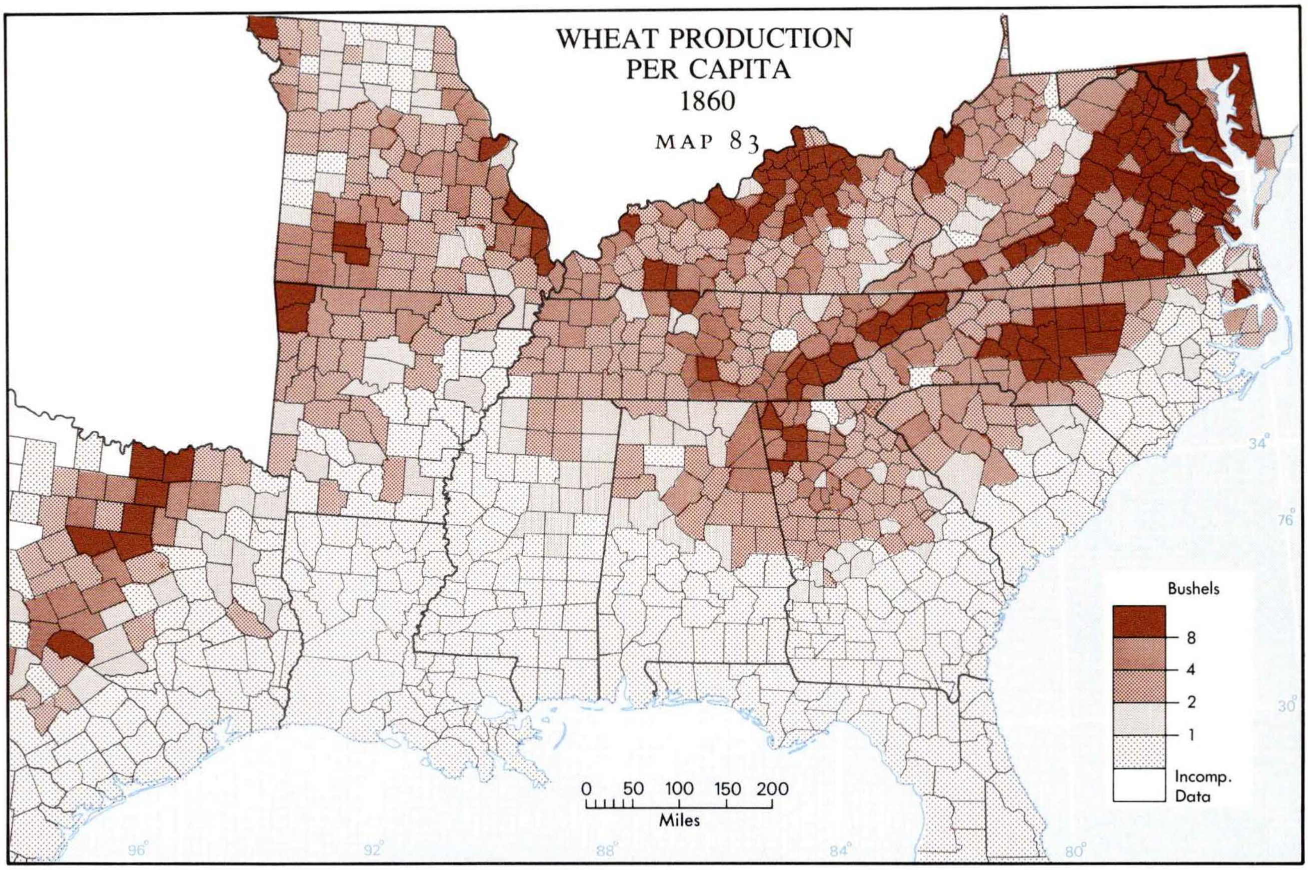
WHEAT PRODUCTION
PER SQUARE MILE
1840
MAP 78


WHEAT PRODUCTION
1850
EACH DOT REPRESENTS 10,000 BUSHELS
MAP 79
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°


WHEAT PRODUCTION PER CAPITA
1850
MAP 80
Bushels
8
4
2
1
Incomp. Data
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°

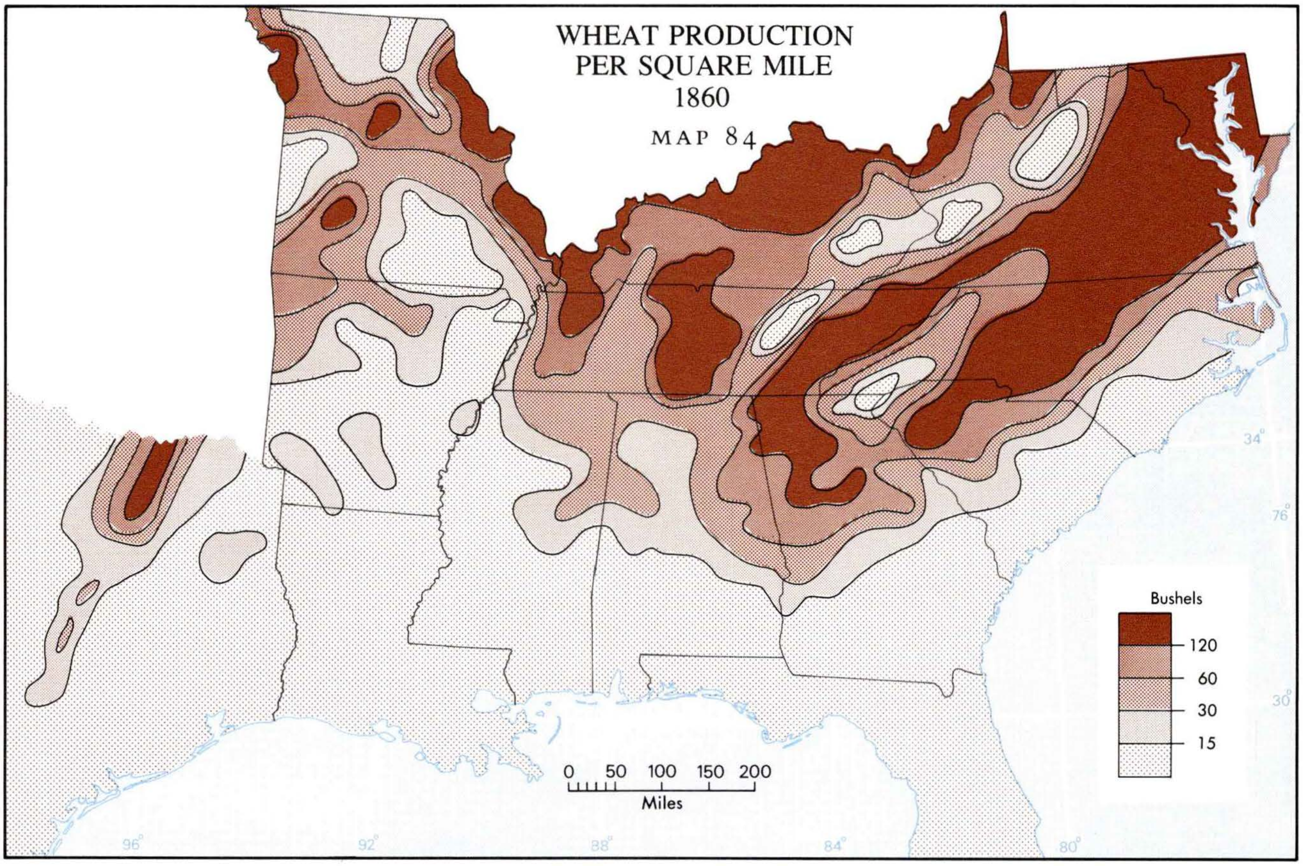

WHEAT PRODUCTION
PER SQUARE MILE
1850
MAP 81
Bushels
120
60
30
15
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°


WHEAT PRODUCTION
1860
EACH DOT REPRESENTS 10,000 BUSHELS
MAP 82
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°



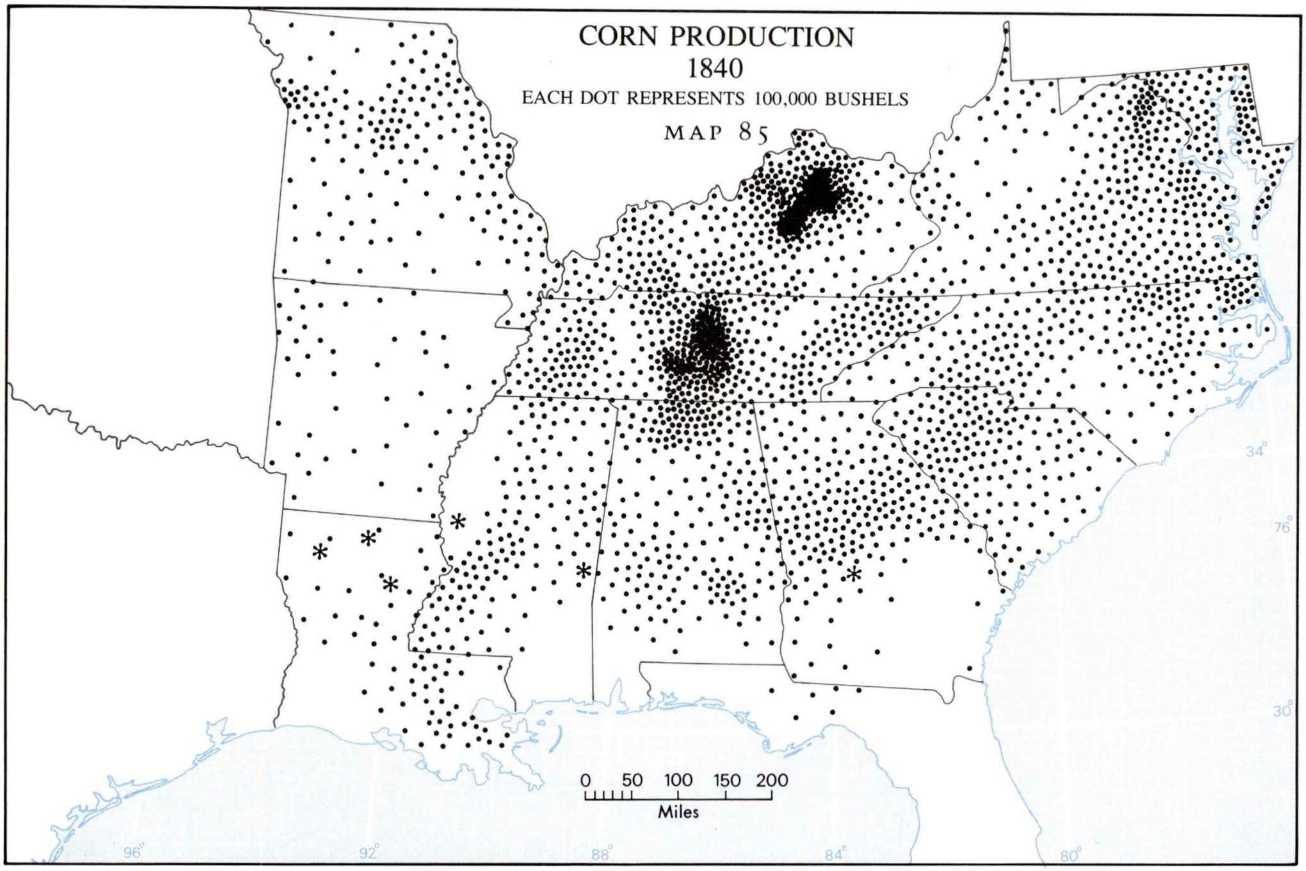
WHEAT PRODUCTION
PER CAPITA
1860

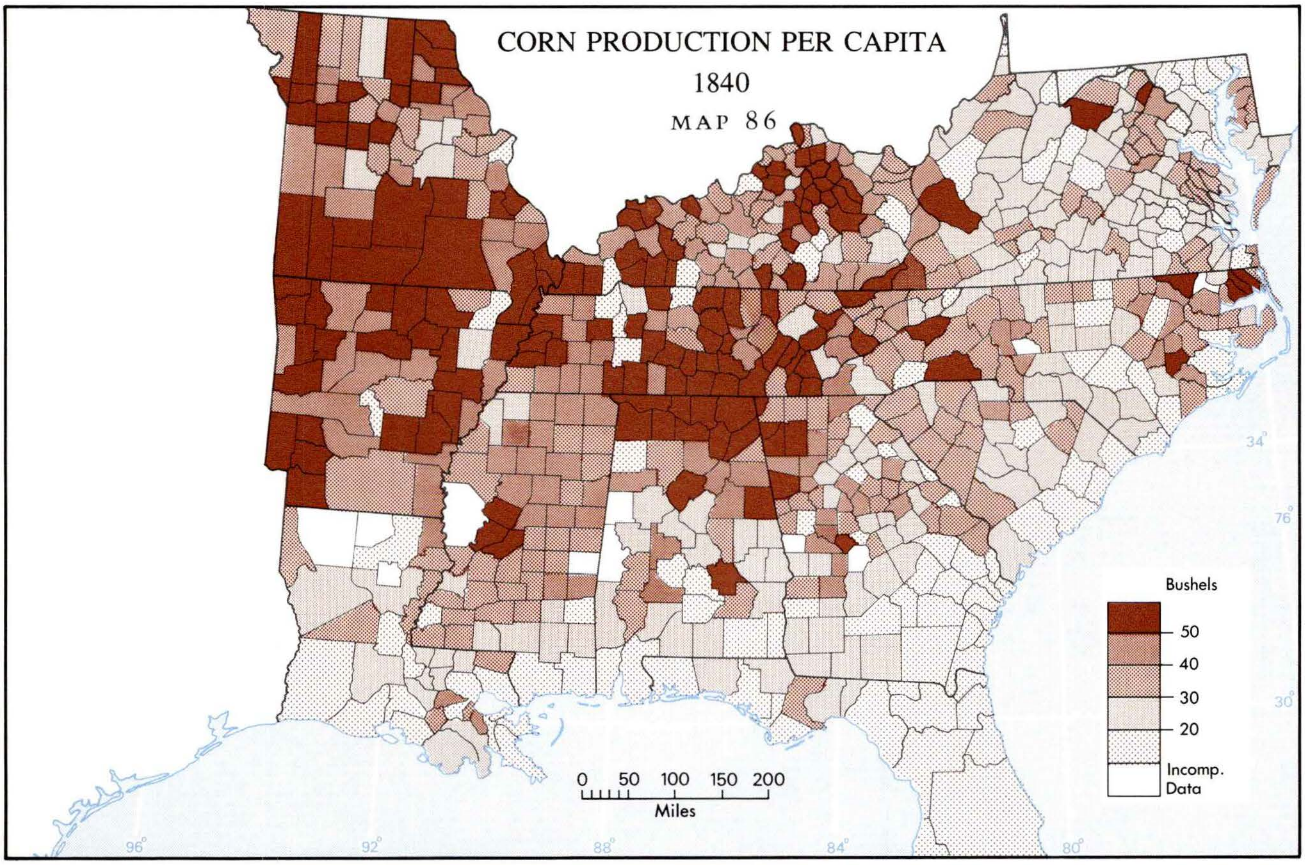
MAP 83

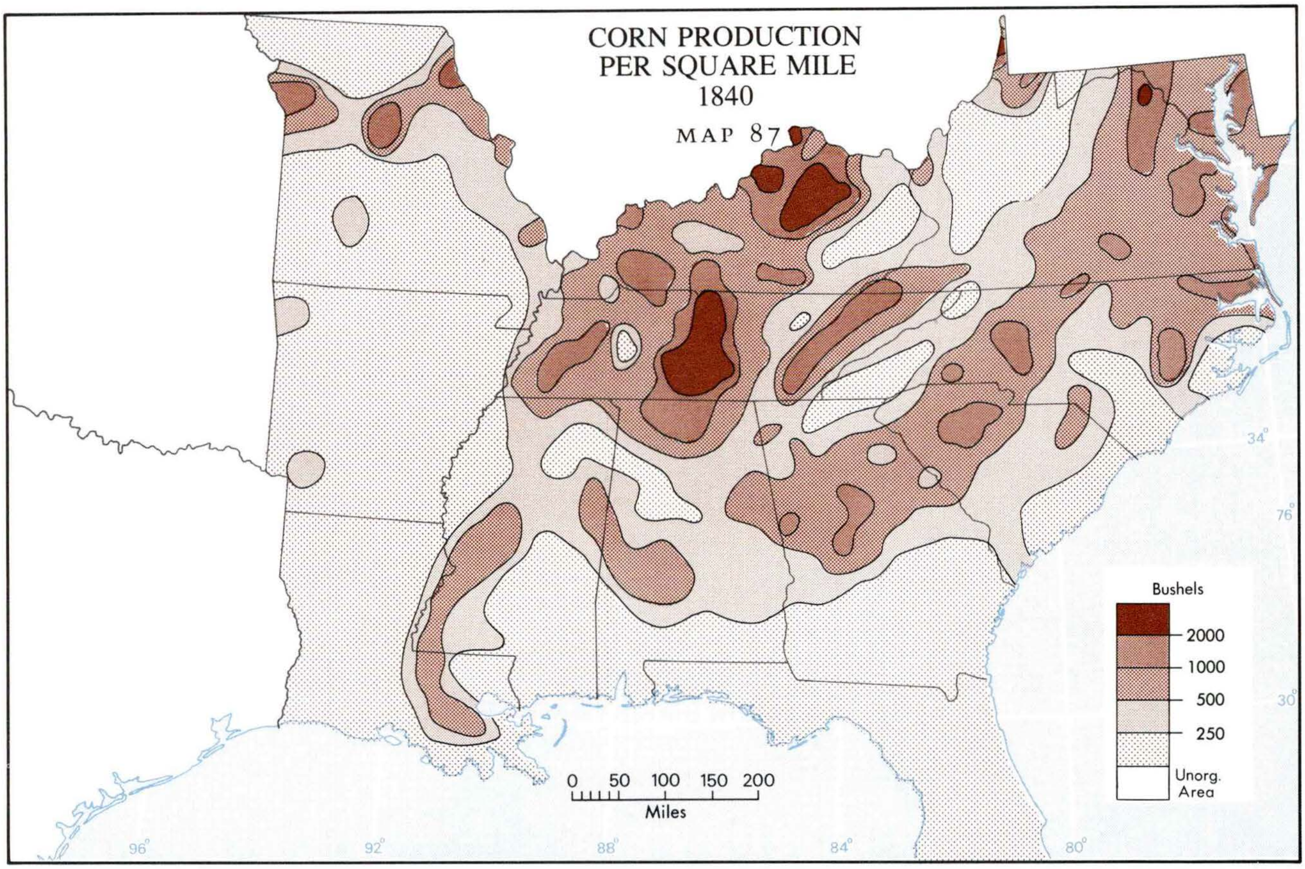


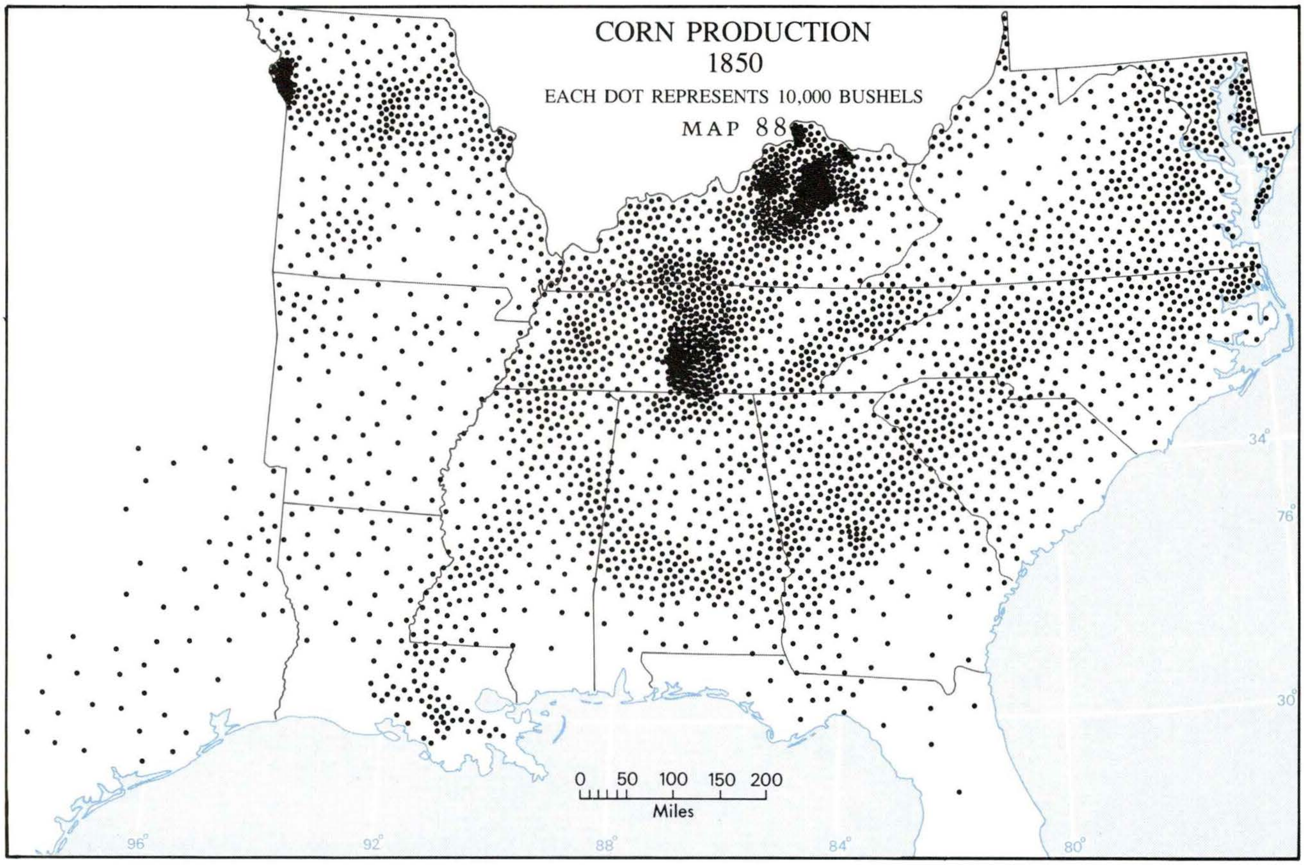
WHEAT PRODUCTION
PER SQUARE MILE
1860

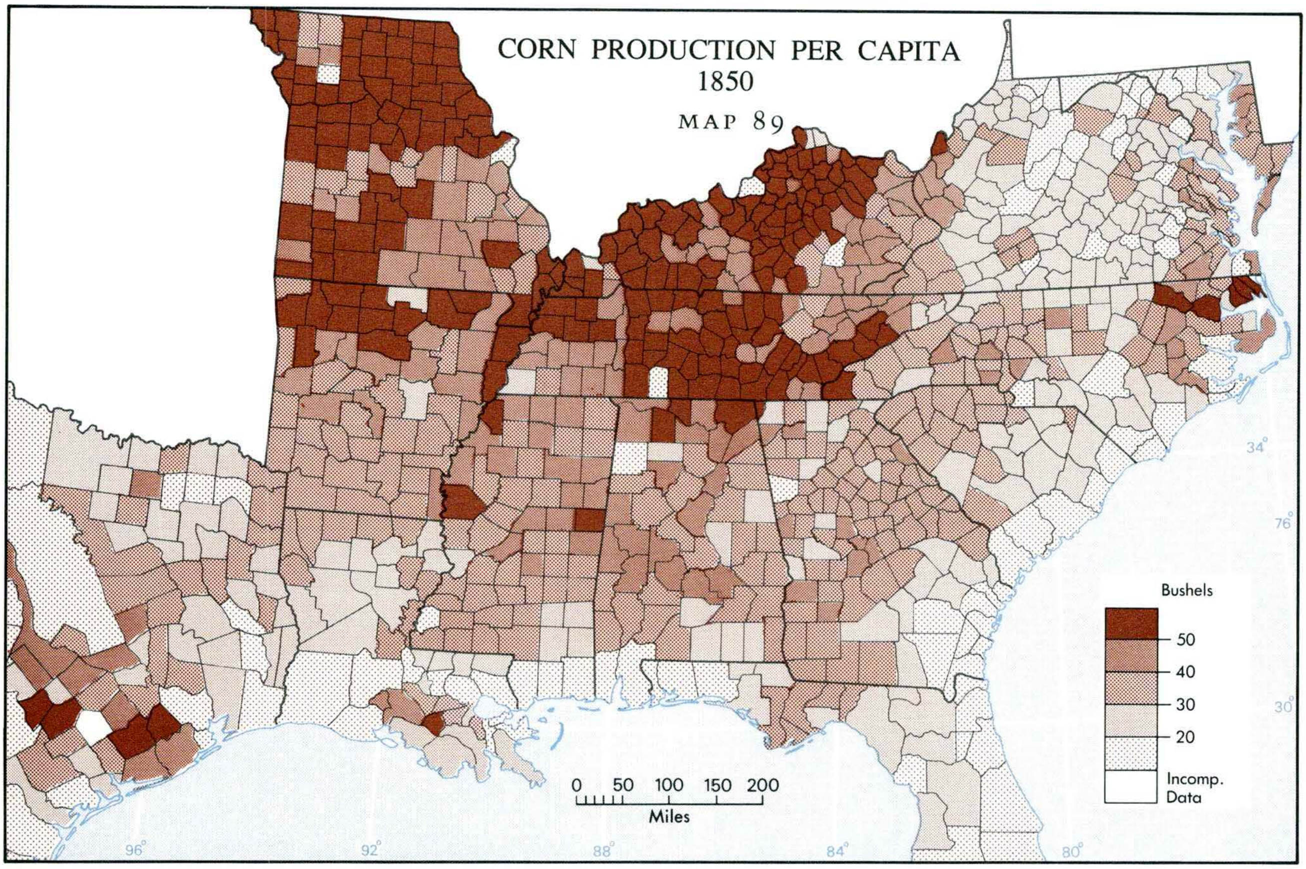
MAP 84


CORN PRODUCTION
1840
EACH DOT REPRESENTS 100,000 BUSHELS
MAP 85
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°


CORN PRODUCTION PER CAPITA
1840
MAP 86
Bushels
50
40
30
20
Incomp. Data
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°

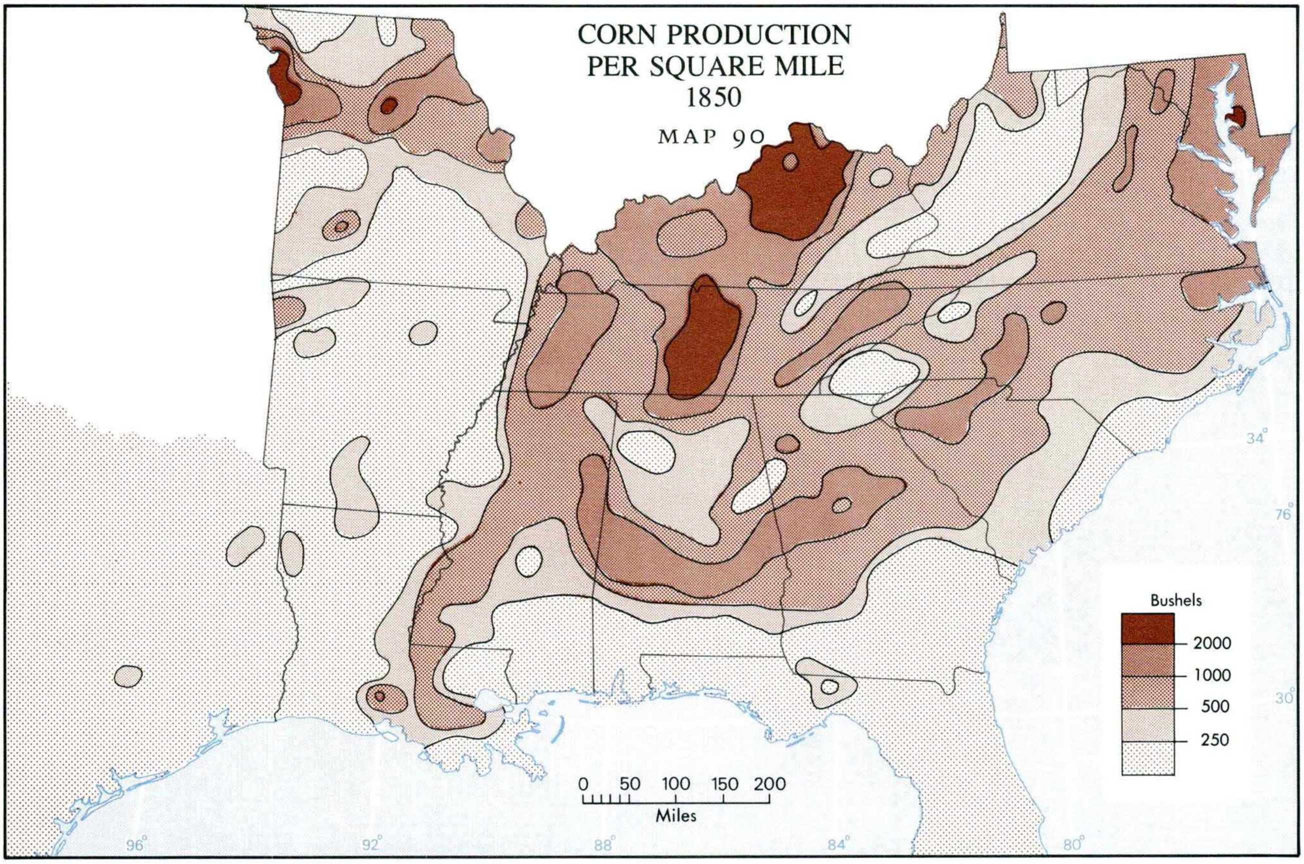

CORN PRODUCTION
PER SQUARE MILE
1840
MAP 87
Bushels
2000
1000
500
250
Unorg. Area
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°


CORN PRODUCTION
1850
EACH DOT REPRESENTS 10,000 BUSHELS
MAP 88
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°



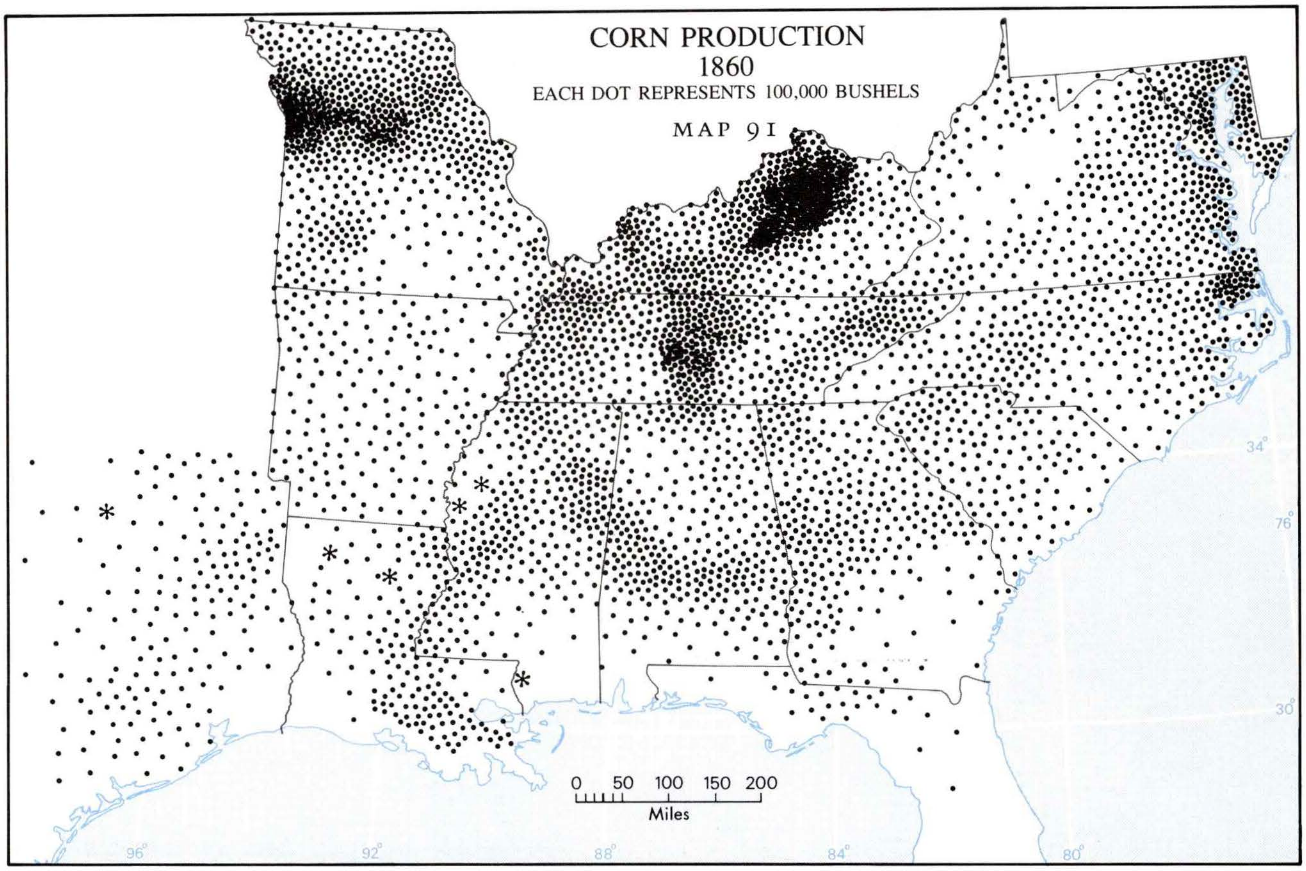
CORN PRODUCTION PER CAPITA
1850

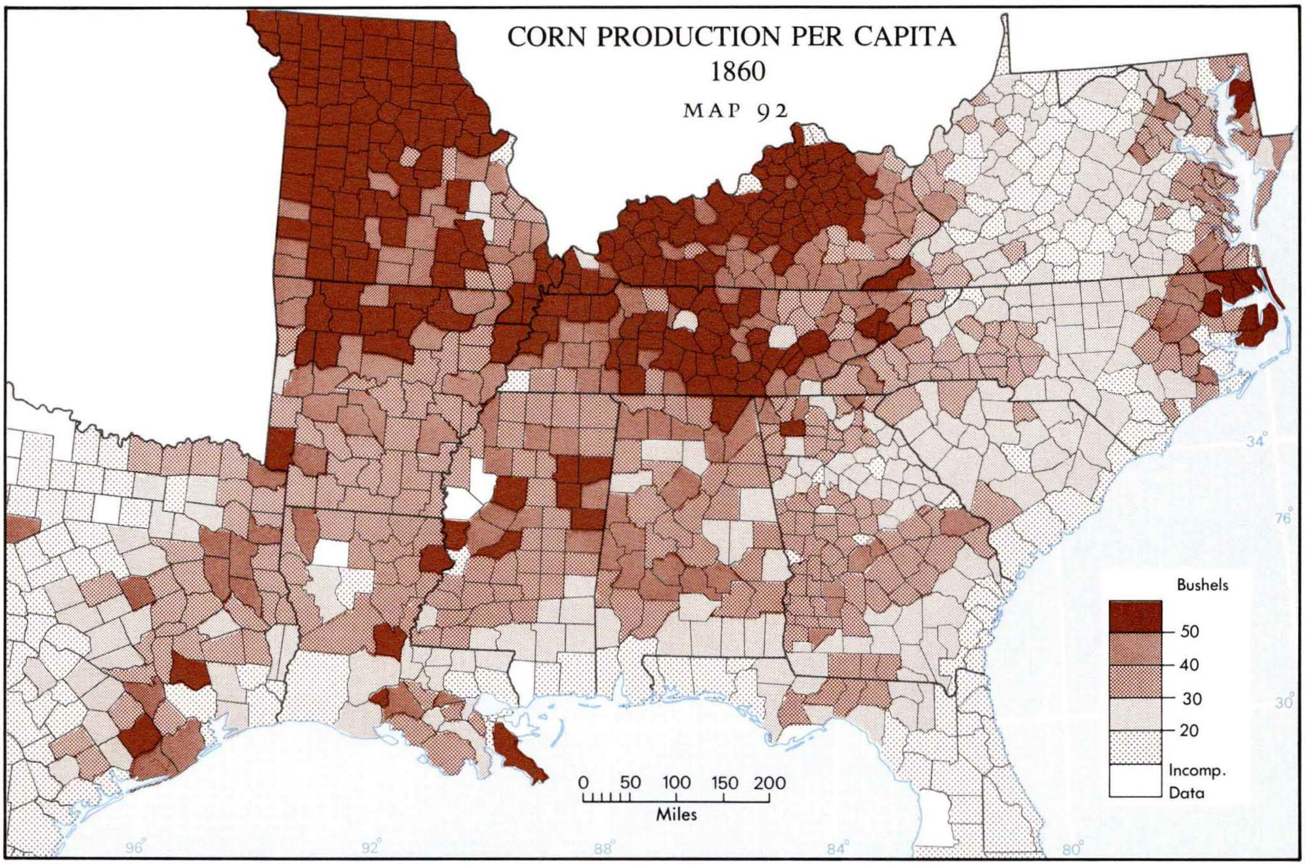
MAP 89

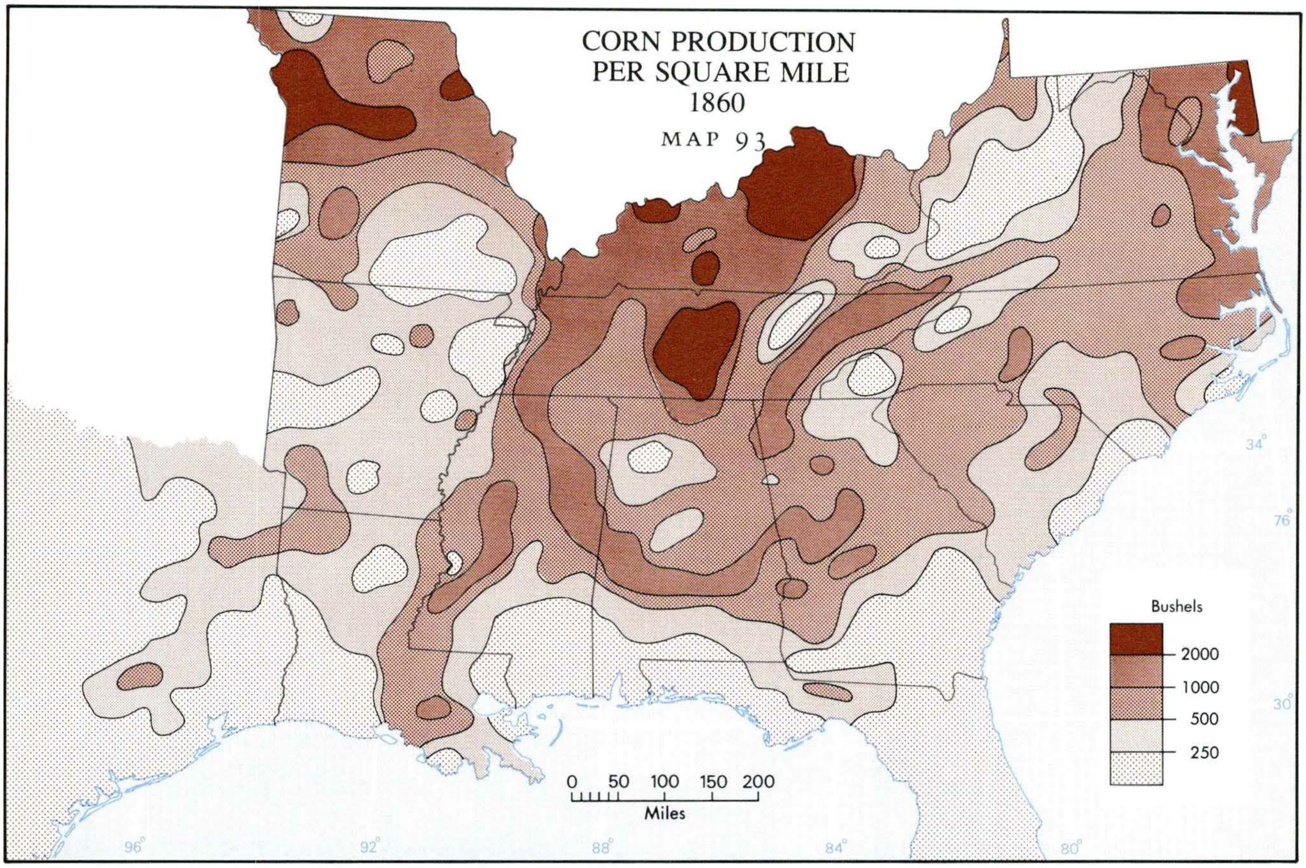


CORN PRODUCTION
PER SQUARE MILE
1850

MAP 90

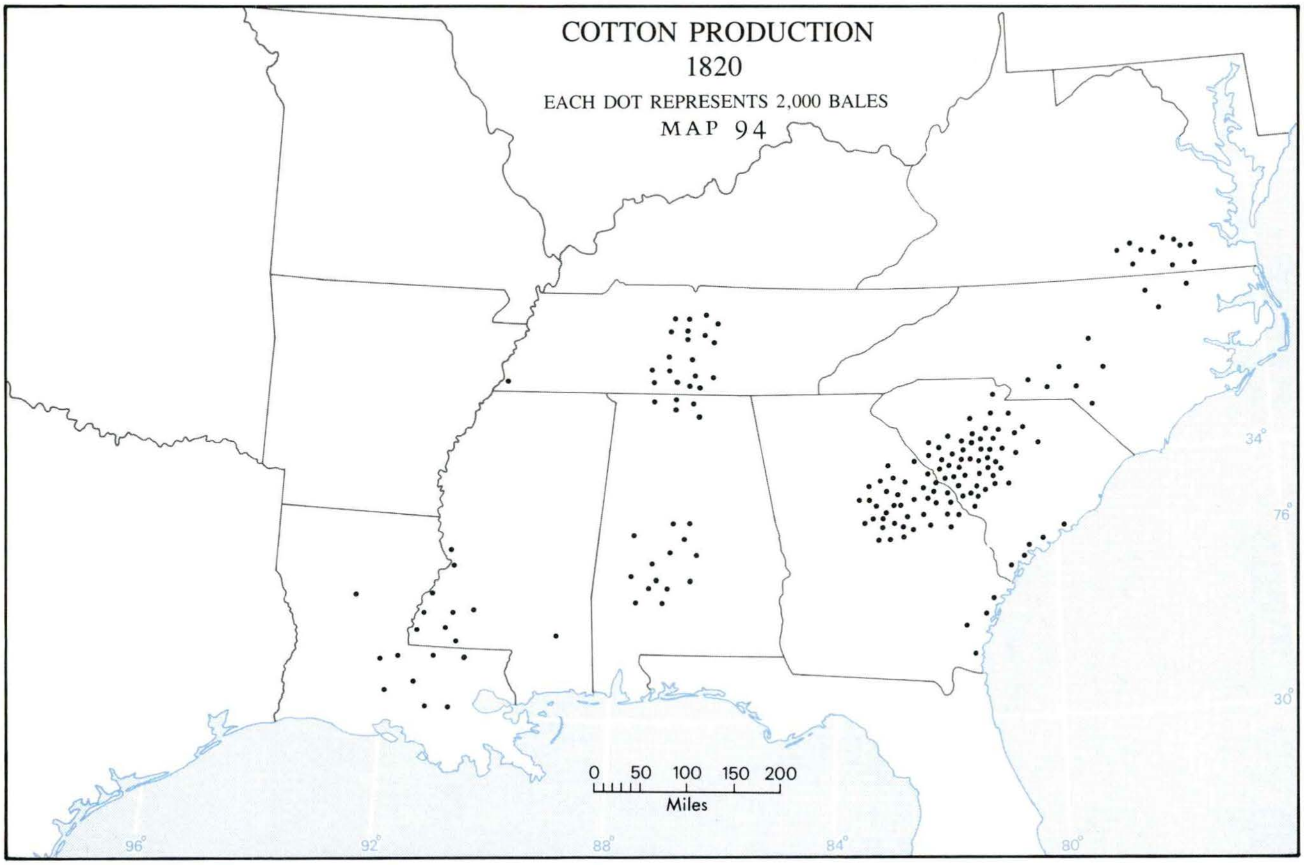

CORN PRODUCTION
1860
EACH DOT REPRESENTS 100,000 BUSHELS
MAP 91
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°


CORN PRODUCTION PER CAPITA
1860
MAP 92
Bushels
50
40
30
20
Incomp. Data
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°



CORN PRODUCTION
PER SQUARE MILE
1860

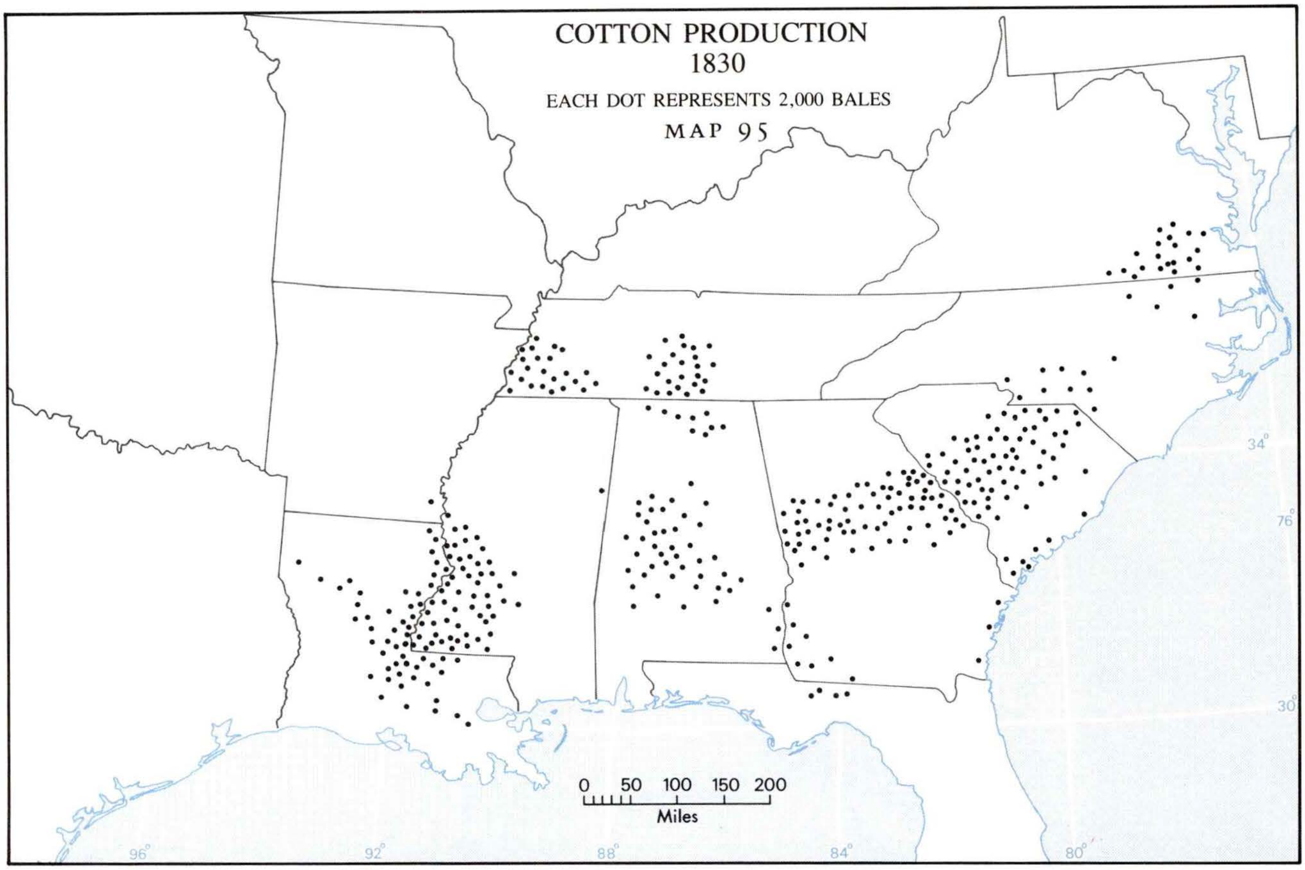
MAP 93



COTTON PRODUCTION
1820

EACH DOT REPRESENTS 2,000 BALES

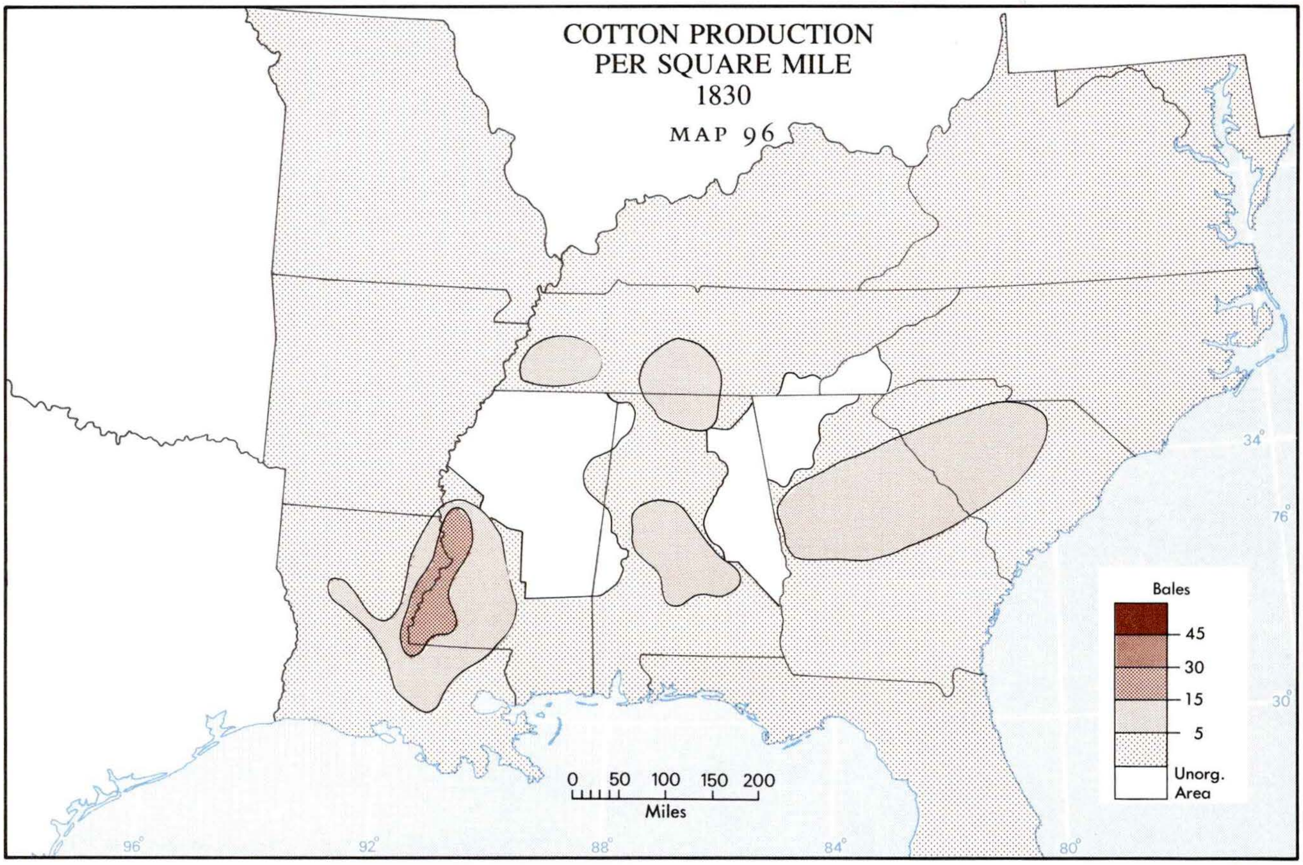
MAP 94



COTTON PRODUCTION
1830

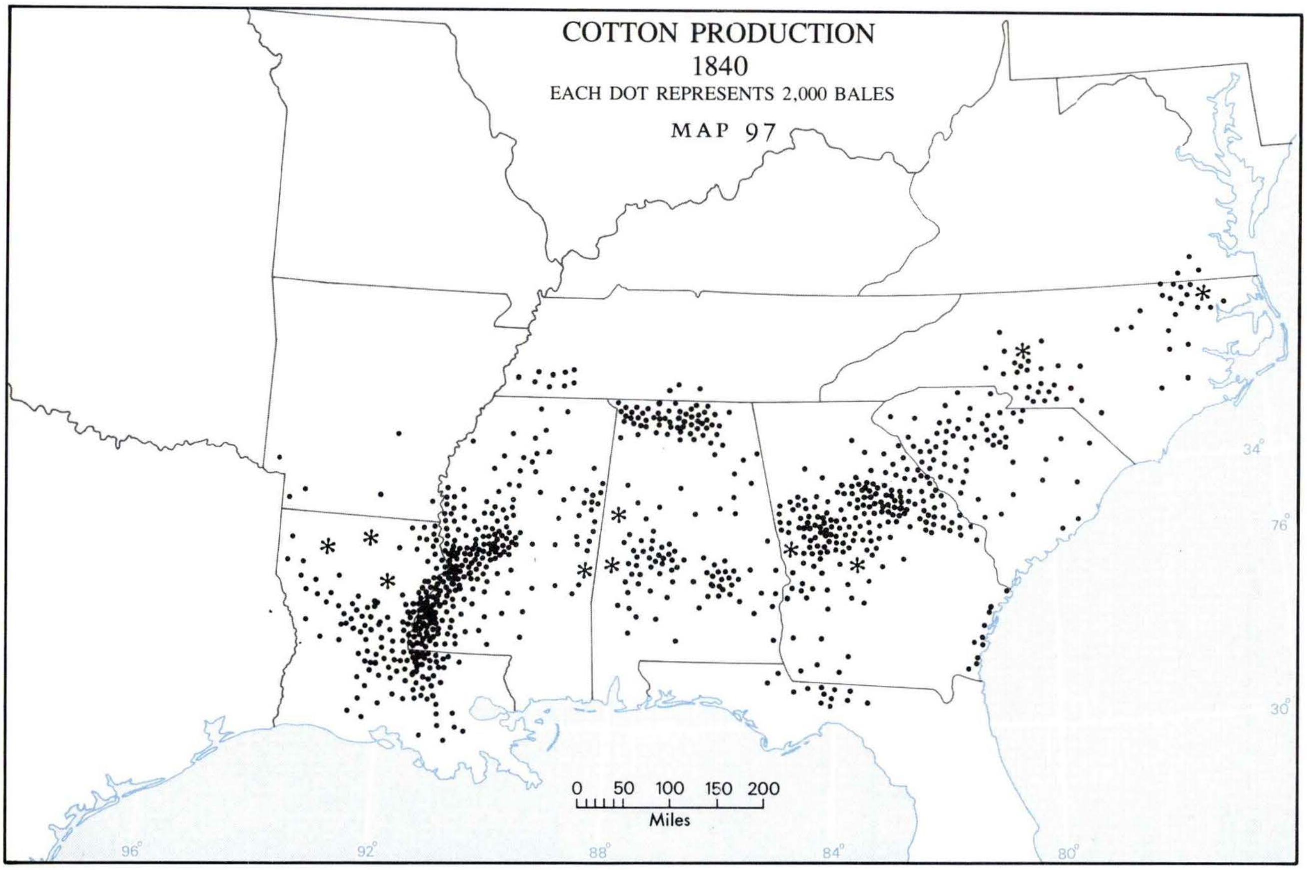
EACH DOT REPRESENTS 2,000 BALES

MAP 95



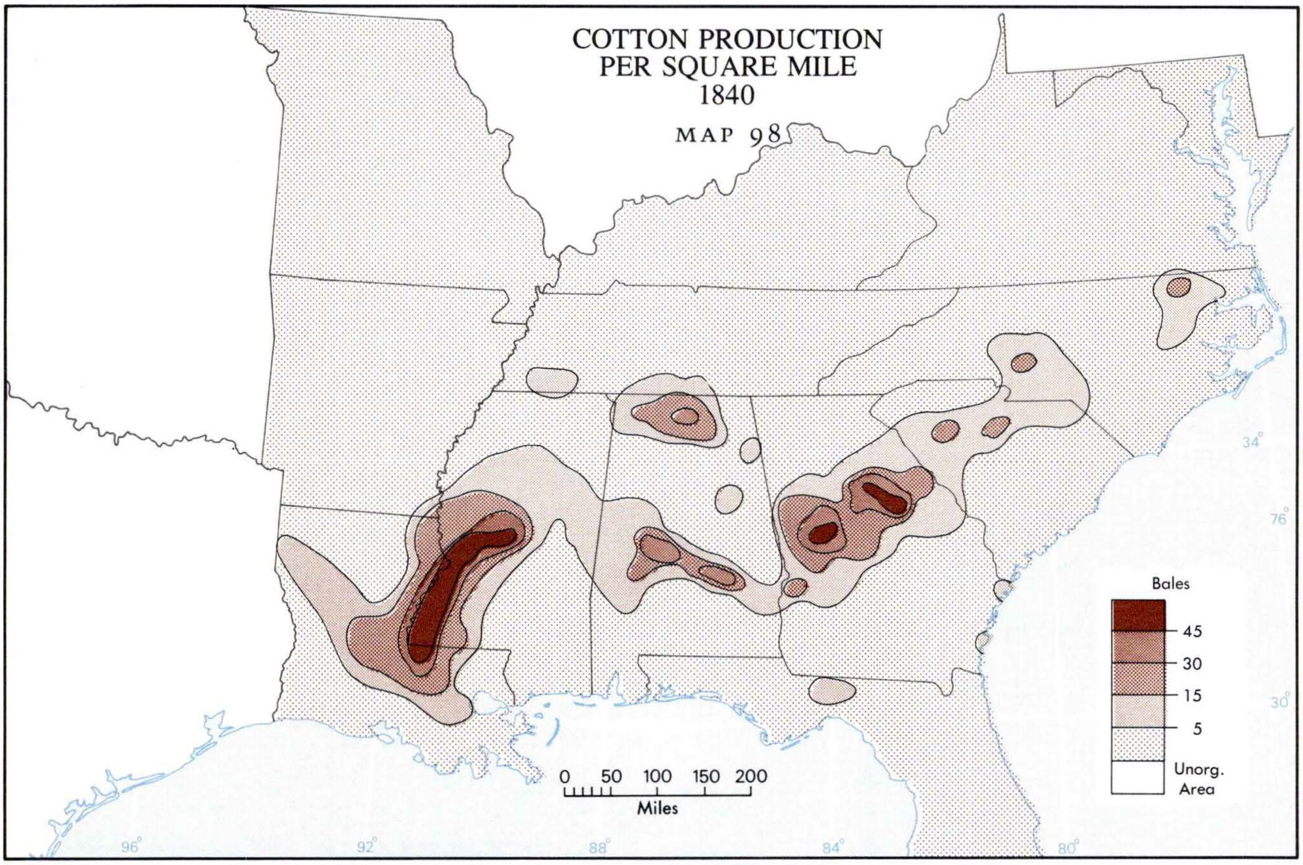
COTTON PRODUCTION
PER SQUARE MILE
1830

MAP 96



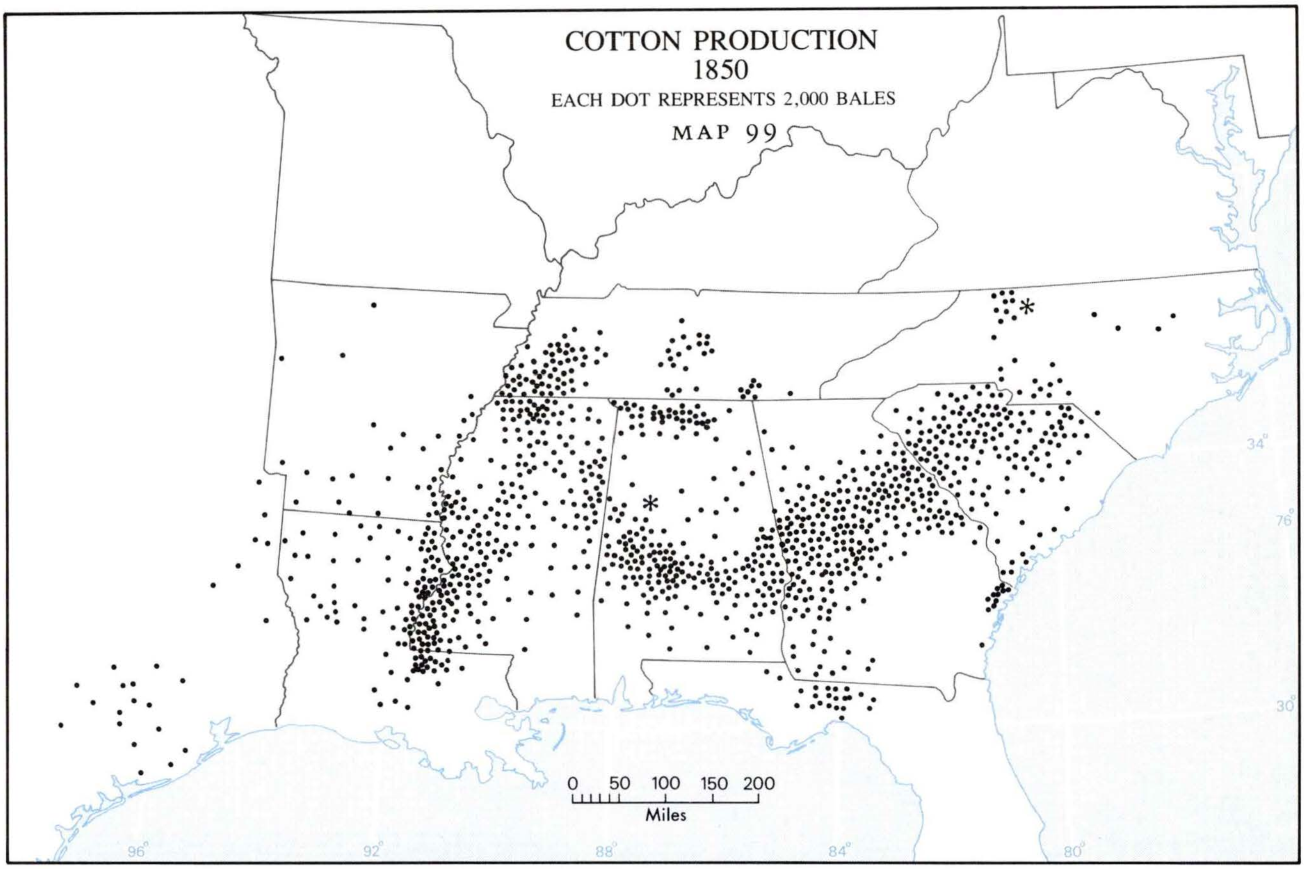
COTTON PRODUCTION
1840
EACH DOT REPRESENTS 2,000 BALES

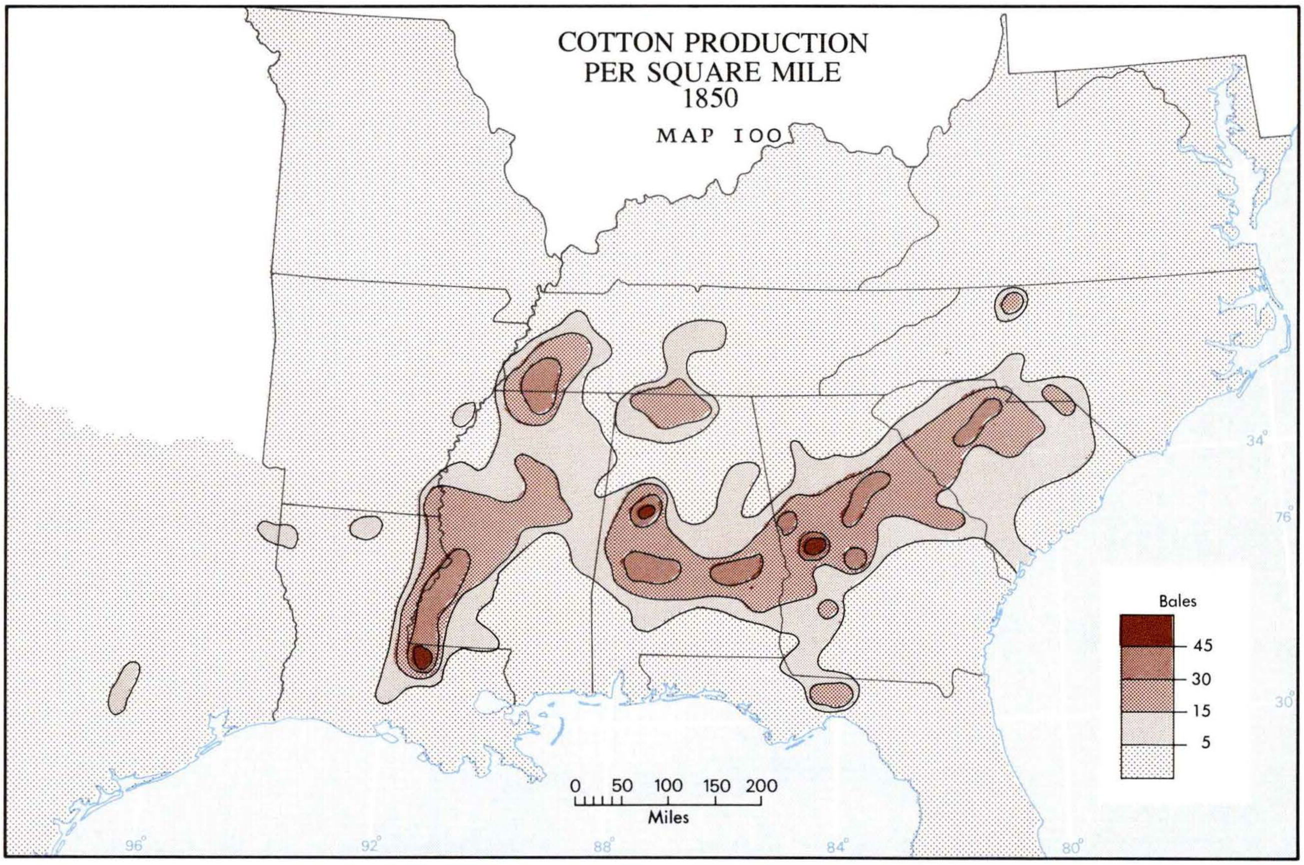
MAP 97

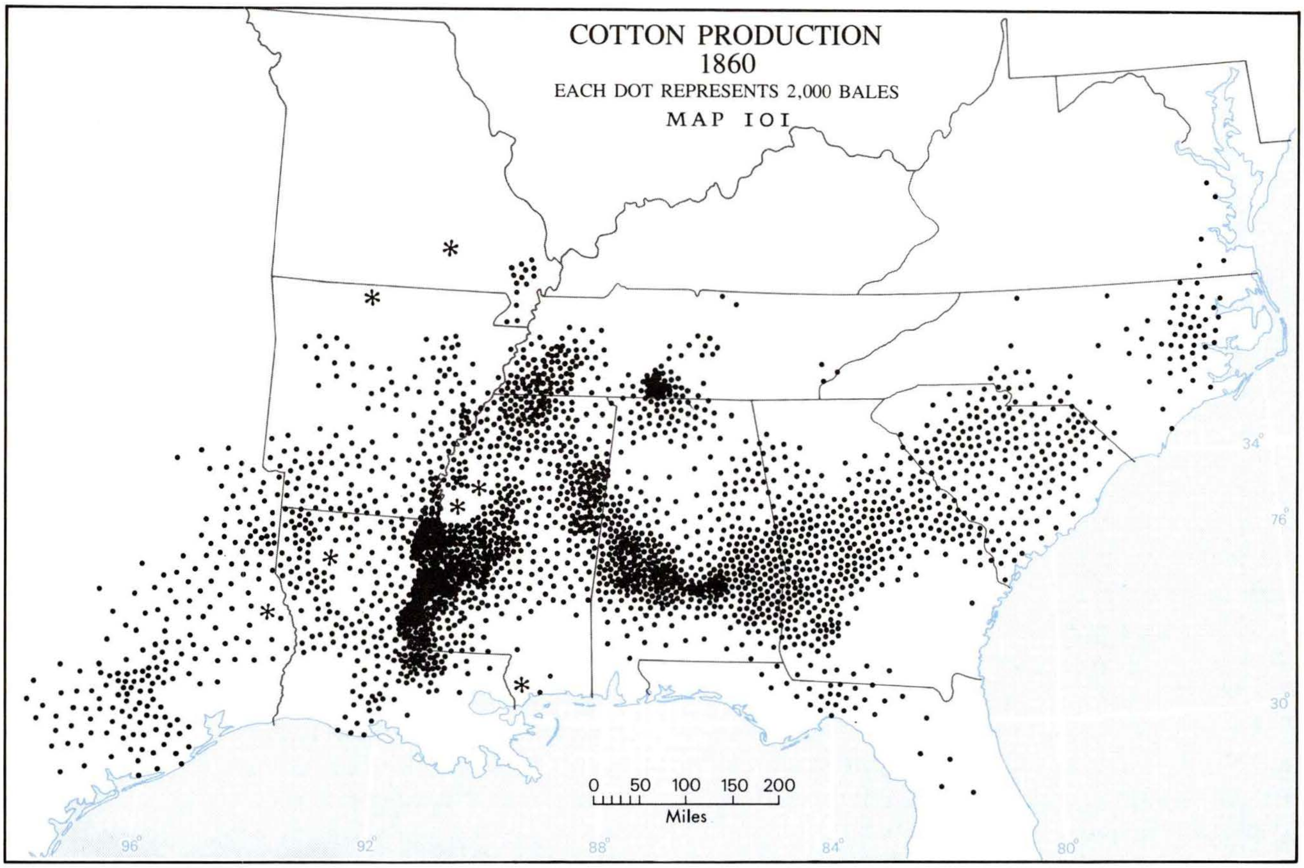


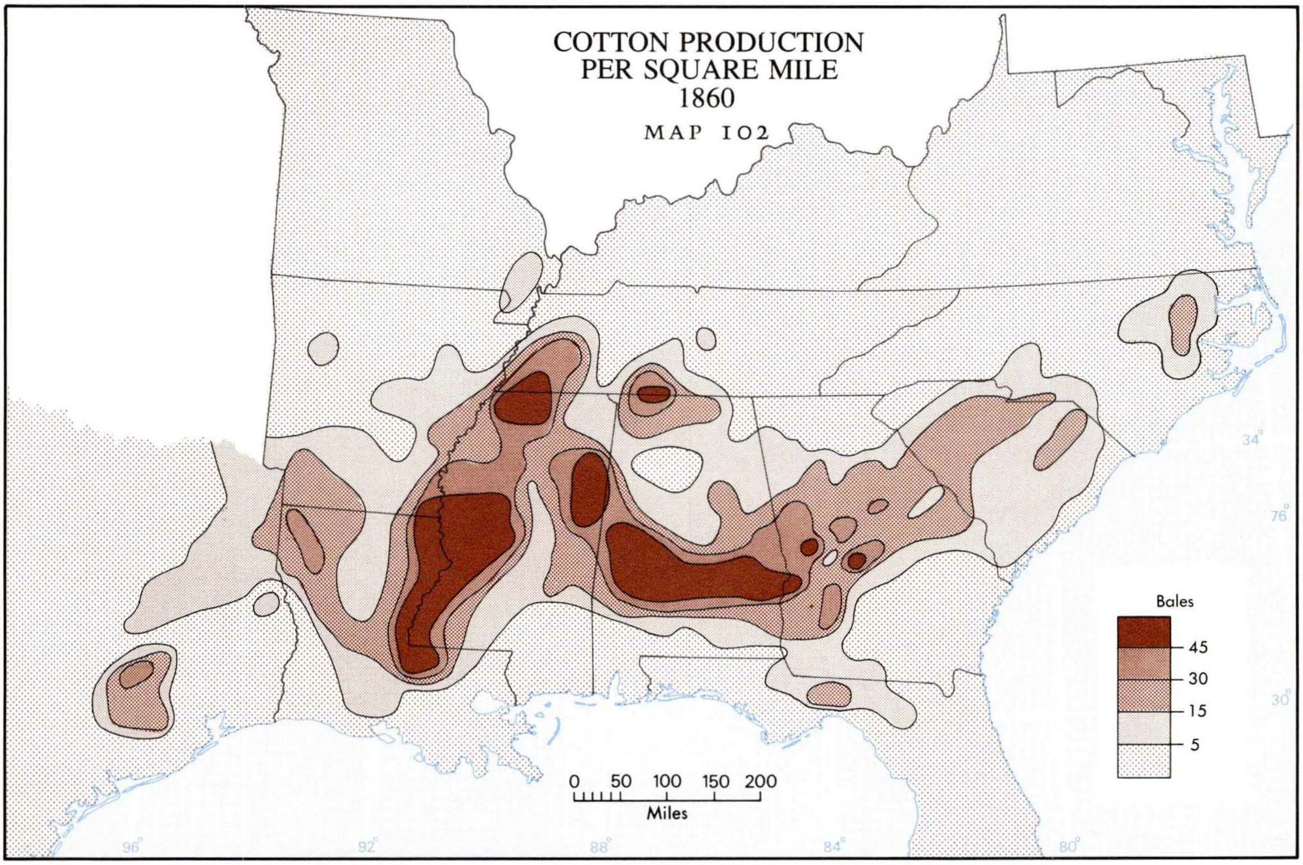
COTTON PRODUCTION
PER SQUARE MILE
1840

MAP 98


COTTON PRODUCTION
1850
EACH DOT REPRESENTS 2,000 BALES
MAP 99
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°


COTTON PRODUCTION
PER SQUARE MILE
1850
MAP 100
Bales
45
30
15
5
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
34°
76°
30°


COTTON PRODUCTION
1860
EACH DOT REPRESENTS 2,000 BALES
MAP 101
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°


COTTON PRODUCTION
PER SQUARE MILE
1860
MAP 102
Bales
45
30
15
5
0 50 100 150 200
Miles
96°
92°
88°
84°
80°
76°
34°
30°

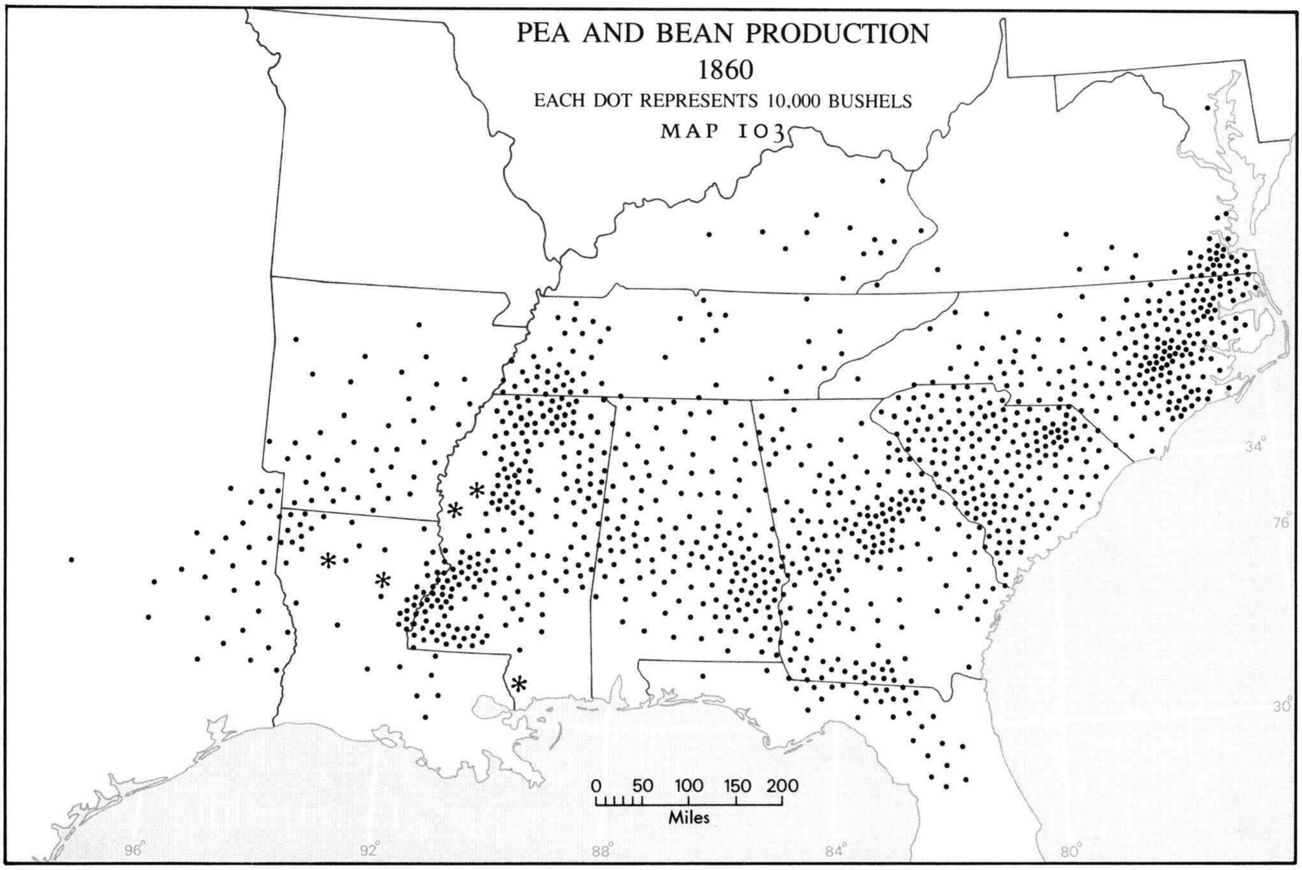
VII
Other Crops

The following maps display a number of crops whose productions or distributions relegate them to the status of minor or subregional crops. Oats, rye, barley, and Irish potatoes were essentially nonsouthern; thus their production in the South was concentrated in the northern half of the area. Oats and rye had similar distributions, with the heavy producing areas being Virginia, Maryland, and the Bluegrass Basin of Kentucky. Tennessee and North Carolina had sizable producing areas, but the remaining states showed only a scattering. Barley was even more limited, the only areas of significant production being the Bluegrass Basin and the Mississippi-Missouri valleys of Missouri.

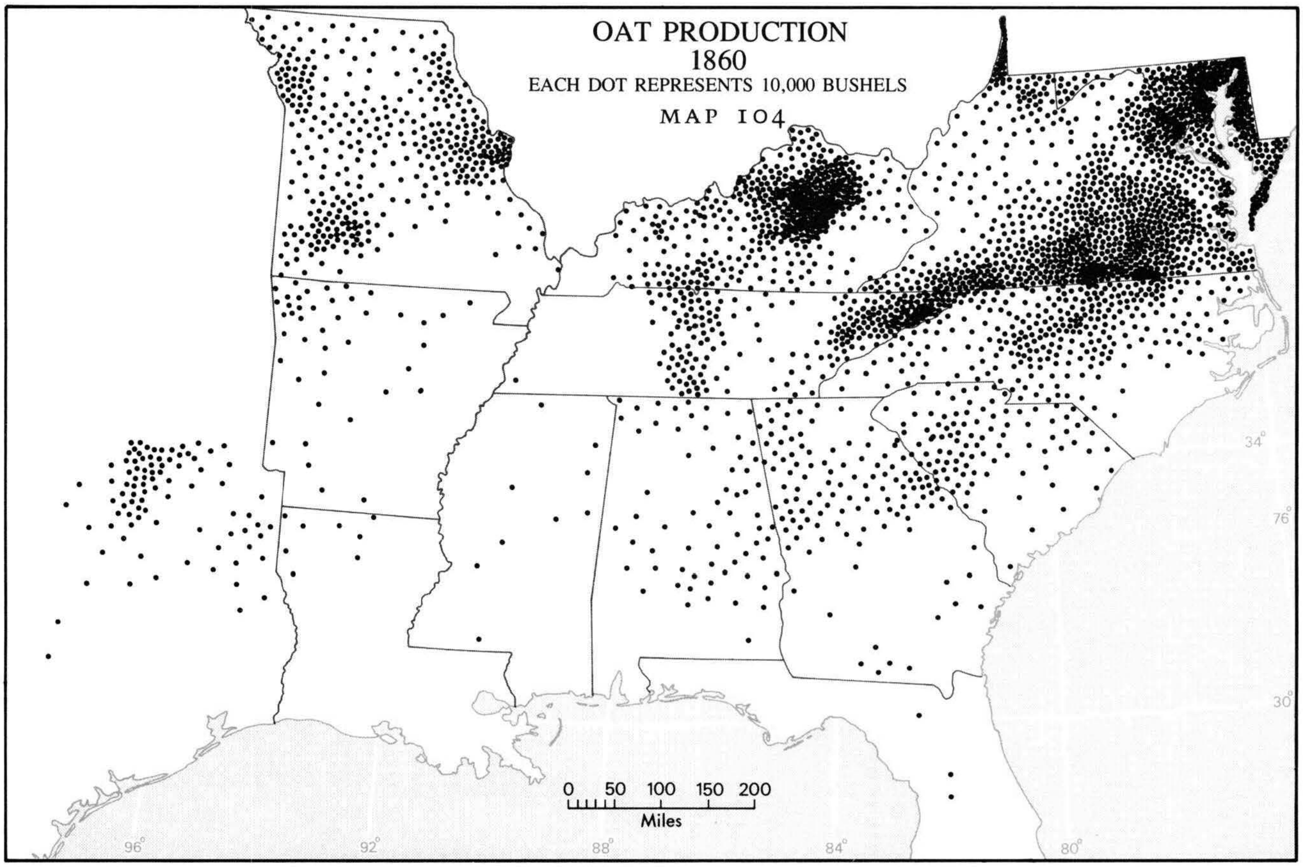
Particularly revealing is the comparison between Irish and sweet potatoes. The former, a cool-summer crop, was widely grown in America, but within the South its production was highest toward the northern margins of the area. On the other hand, the sweet potato was virtually limited to the lower South, where it yielded well. Grown thoughout the lower South, even near tidewater, it was an important food crop. Another southern crop was the cowpea, reported in the census under the heading "peas and beans." The most significant producing areas were in the lower South when it joined the sweet potato as a major food crop.

Tobacco was a valuable money crop with a wide distribution, but production in commercial quantities was limited to a few dozen specialized counties in Virginia and Kentucky. Even so, small quantities were produced over much of the area. Rice and sugarcane were grown where conditions were suitable, with sugarcane being the most limited in its distribution. A few parishes in lower Louisiana accounted for 95 percent of all the cane grown in the United States. Rice was almost as concentrated, with the eleven coastal counties of South Carolina and Georgia accounting for about 90 percent of the nation's crop. Rice was a rather atypical crop, though, in that tidewater planters harvested huge crops while scattered producers grew a few acres in counties far removed from the coast without irrigation. Hemp showed a scattered distribution, mostly in the states of Missouri, Kentucky, and Virginia.

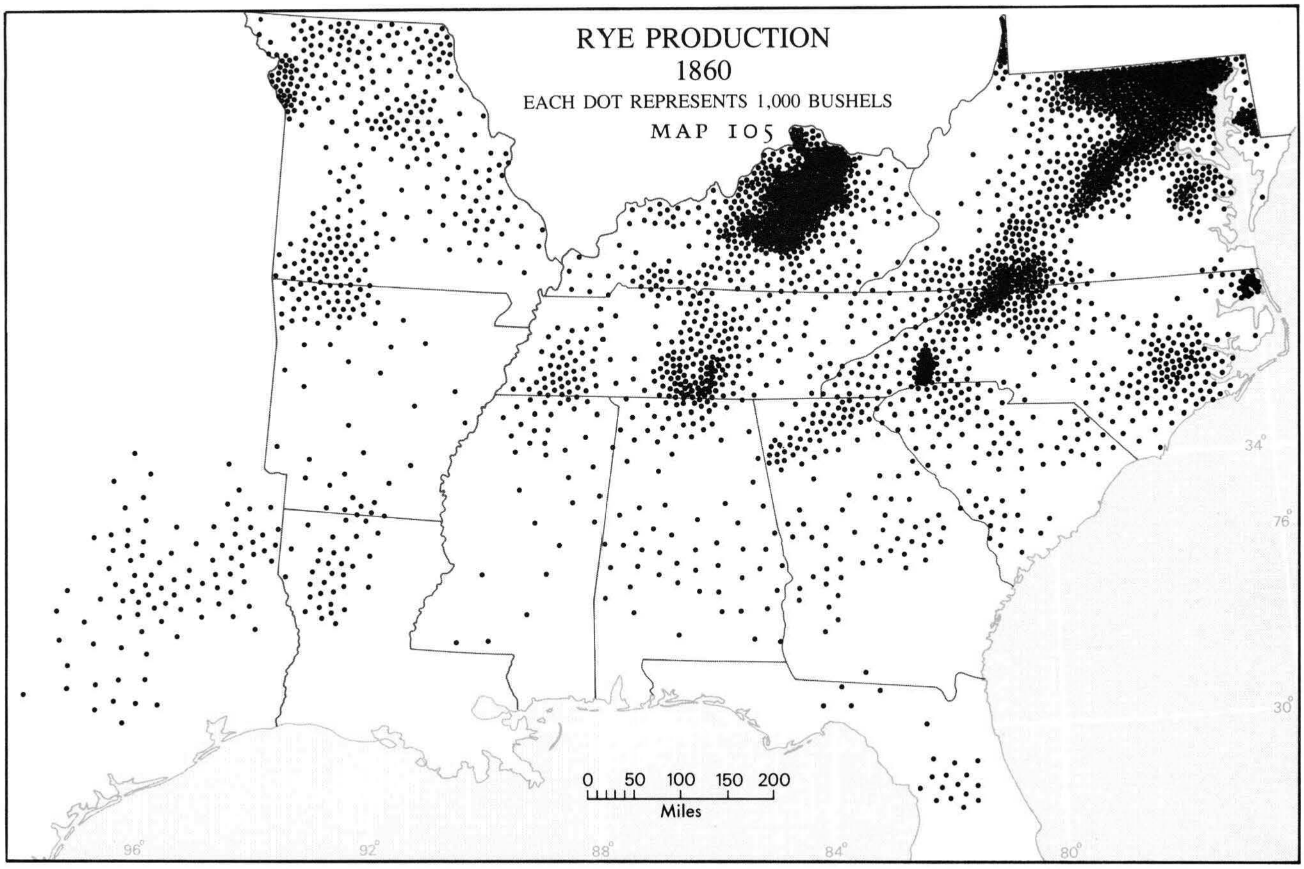
Production data for tobacco, rice, sugarcane, and hemp were such that dot maps could not be used. Some counties grew extremely high quantities while others reported but a pittance. In extreme cases the ratio between the highest and lowest counties were 1,000 to 1 or more; thus they are mapped choroplethically. Note that many counties produced but a few pounds while others reported none.



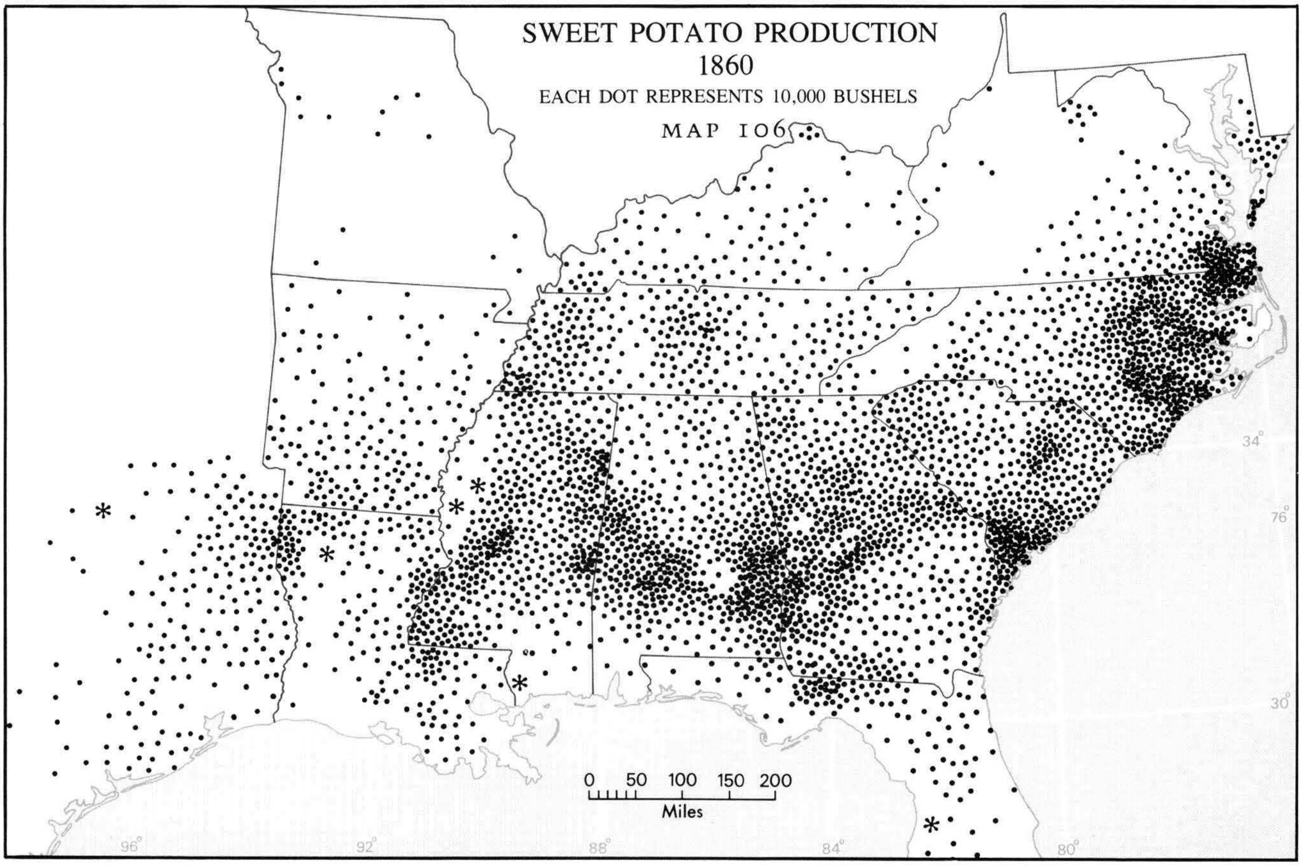
PEA AND BEAN PRODUCTION
1860
EACH DOT REPRESENTS 10,000 BUSHELS
MAP 103



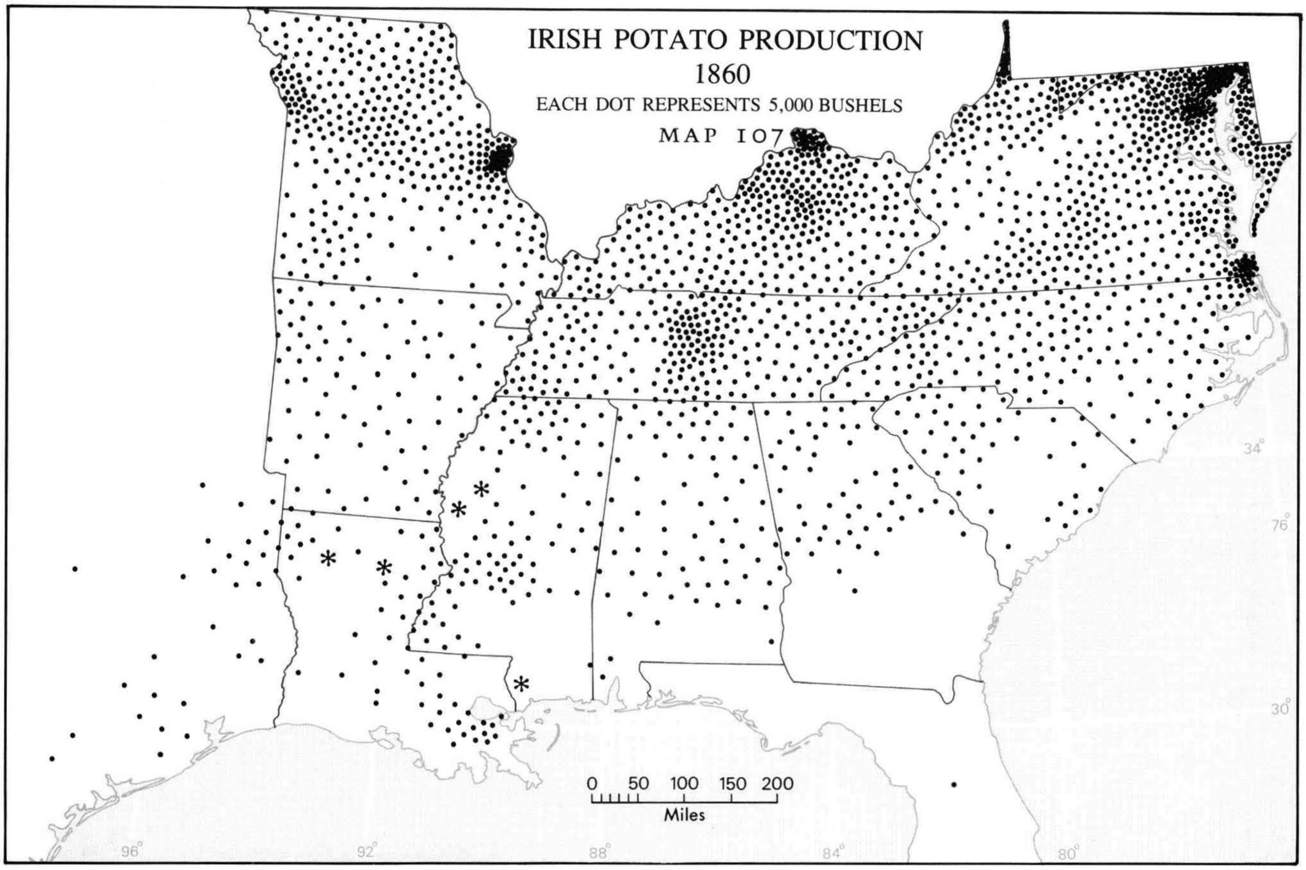
OAT PRODUCTION
1860
EACH DOT REPRESENTS 10,000 BUSHELS
MAP 104

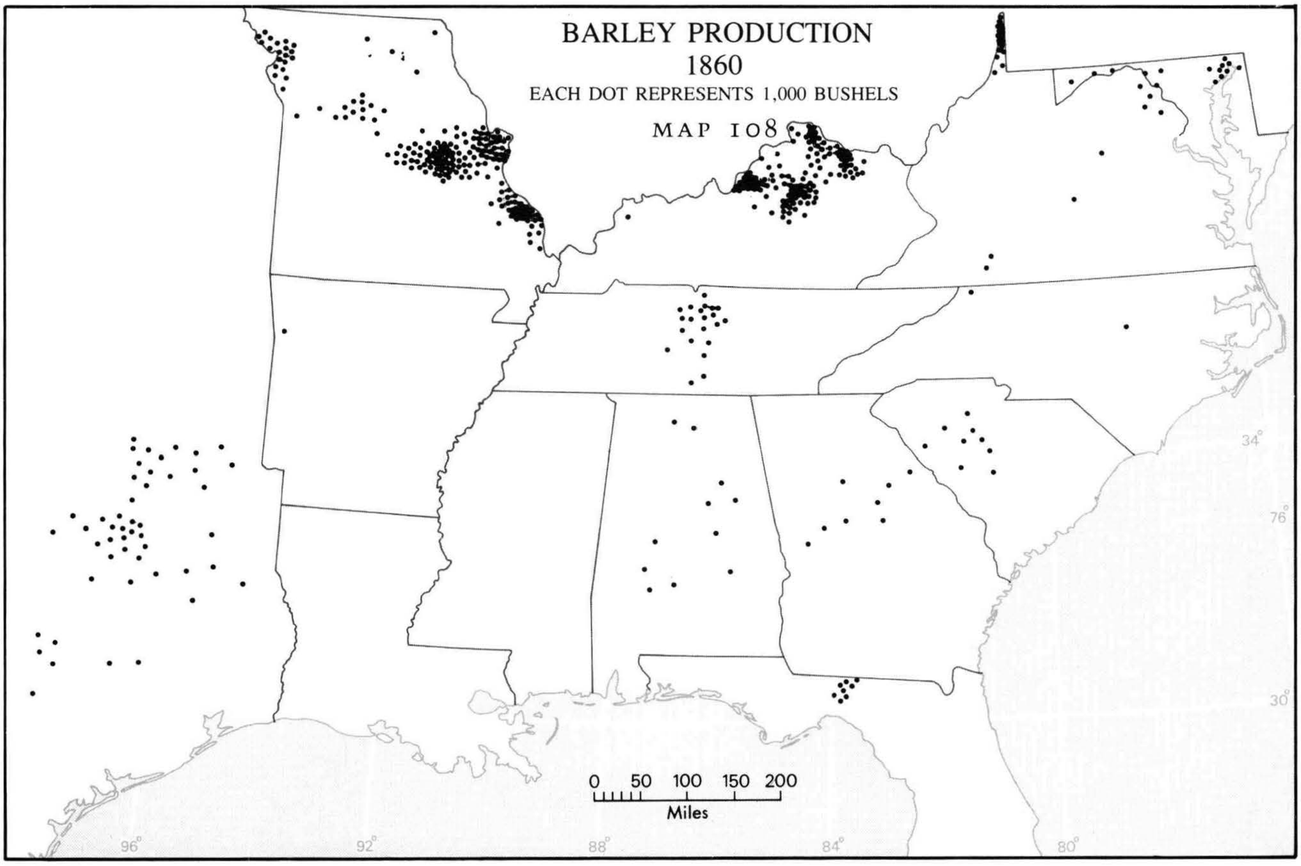


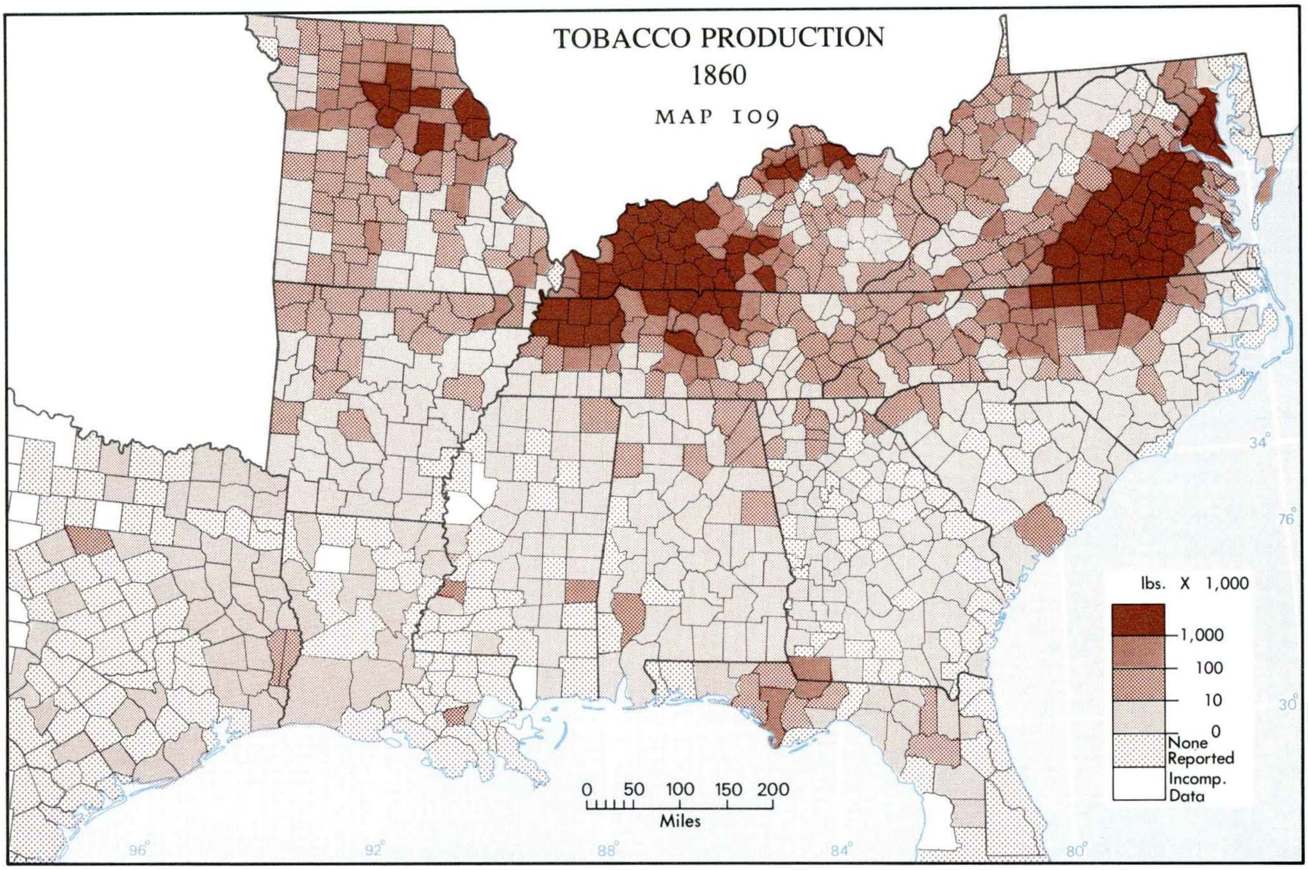
RYE PRODUCTION
1860
EACH DOT REPRESENTS 1,000 BUSHELS
MAP 105



SWEET POTATO PRODUCTION
1860
EACH DOT REPRESENTS 10,000 BUSHELS
MAP 106

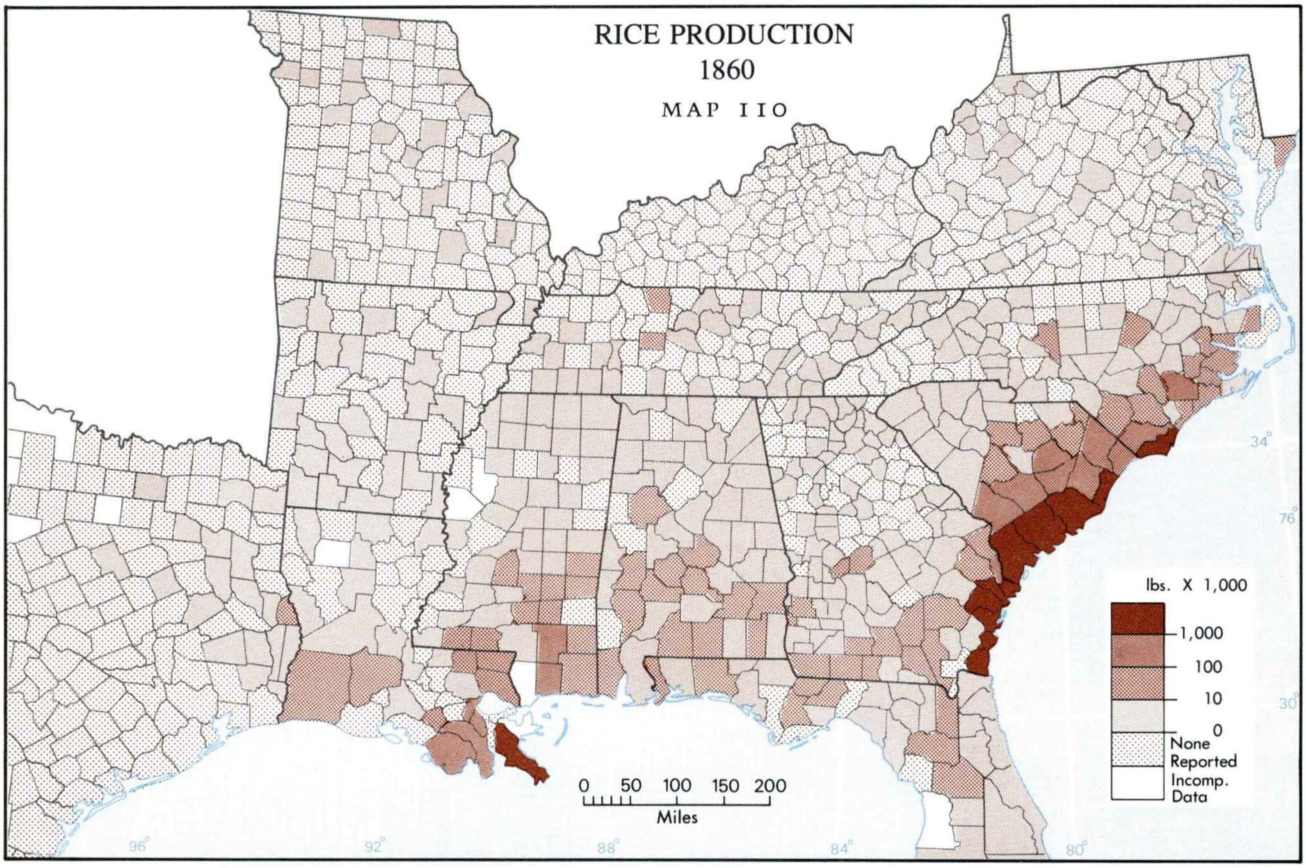

IRISH POTATO PRODUCTION
1860
EACH DOT REPRESENTS 5,000 BUSHELS
MAP 107
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°


BARLEY PRODUCTION
1860
EACH DOT REPRESENTS 1,000 BUSHELS
MAP 108
0 50 100 150 200
Miles
34°
76°
30°
96°
92°
88°
84°
80°



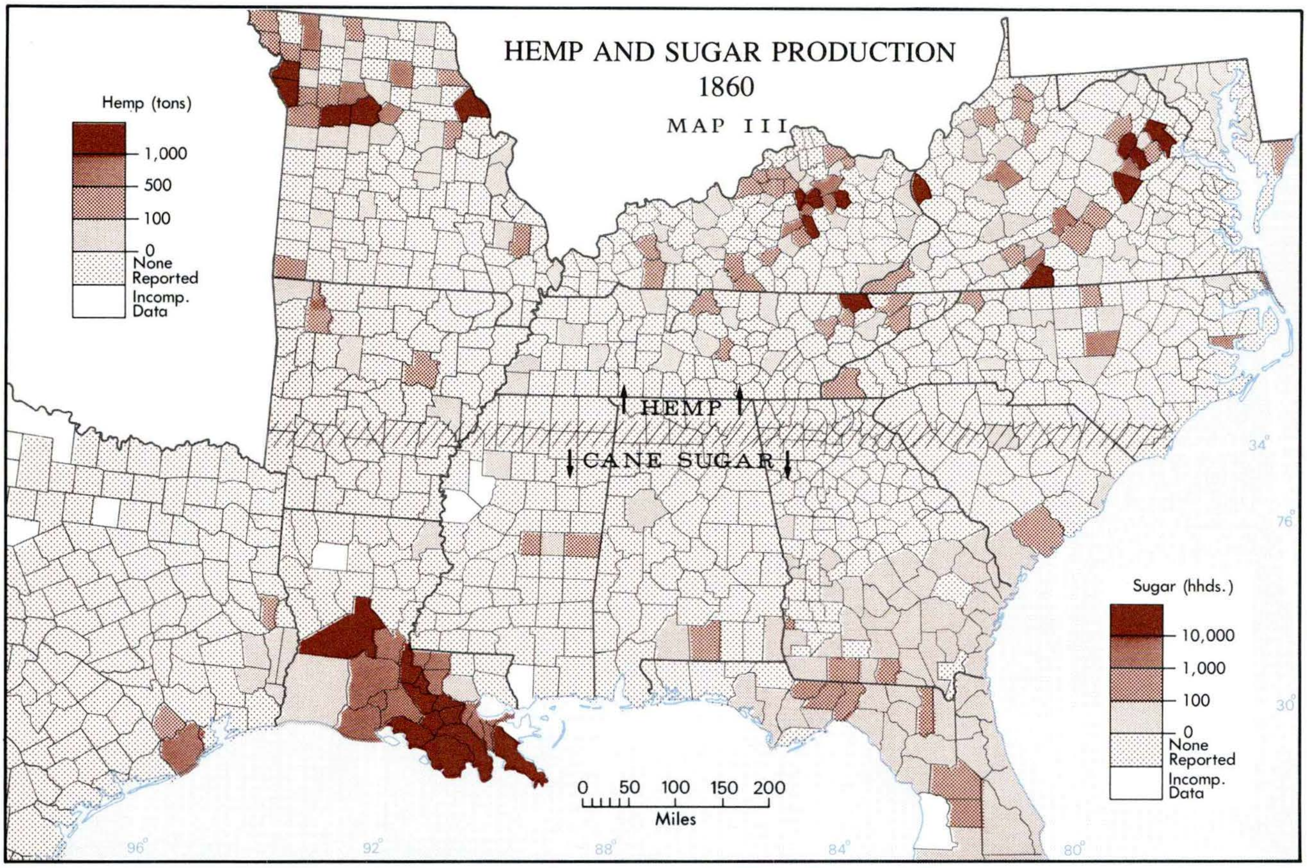
TOBACCO PRODUCTION 1860

MAP 109



RICE PRODUCTION 1860

MAP 110



HEMP AND SUGAR PRODUCTION 1860

MAP III